A CONNECTED WORLD
BEYOND YOUR IMAGINATION

PRODUCT MANUAL 产品手册

Communication Products

RF Coaxial Connectors
Cable Assemblies
Adapters & Accessories

国昌科技
GC TECHNOLOGY

Publisher
GUOCHANG–TECH

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Edition:

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All our products are in compliance with current RoHS legislation.
Guochang is certified according to ISO 9001 and IATF 16949.

公司简介

COMPANY PROFILE

国昌科技创立于 2005 年 7 月，是一家致力于为全球微波通信、汽车、医疗、航天航空等领域的研发、生产和检测提供专业射频解决方案的科技公司。公司依托雄厚的加工背景及研发实力，为国内外的通讯设备制造商、无源系统集成商、天线生产制造商、汽车及医疗设备制造商等配套供应射频同轴连接器及线缆组件。

我们坚持稳健经营，持续创新，开放合作，“以服务客户为中心”，实现和谐共赢，共建互连未来。

GC Technology was established in July 2005, which is committed to researching, manufacturing and providing professional RF solutions in the fields of global microwave communications, automobile, medical equipment , aerospace, etc. Relied on an abundant machining background and R&D strength, GC supplies domestic and overseas telecom equipment manufacturers, passive system integrators, antenna manufacturers, automobile and medical equipment manufacturers with RF Coaxial Connectors and Cable Assemblies.

Driven by responsible operations, ongoing innovation, open collaboration and customer–centric, GC is on the road to achieve the all–win harmony and build up a better connected future.

连接的力量，因我更强大！

Amp up connections, together!

快速	FAST
可靠	RELIABLE
竞争力	COMPETITIVE
简便	STRAIGHTFORWARD

我们供货至世界知名企业的一个简单的理由是诚信待客并将高品质和合理的价格放在首位。

One simple reason that we supply our products to world-renowned companies is our endless loyalty to customer and putting first priority to high quality and reasonable price.

通信	汽车电子	医疗电子	轨道交通	测量
TELECOM	AUTOMOTIVE	MEDICAL	RAILWAY	MEASUREMENT

Guochang is always at your service

企业荣誉认证
Enterprise honor certificates

RoHS

NSF ISR ISO9001:2015

NSF ISR IATF16949:2016

专利
Patent

获批“浮动射频同轴连接器”（结构设计）专利
Obtained "floating RF coaxial connector"(structural design)

获批“一种同轴连接器”（焊接结构）专利
Obtained patent for a coaxial connector (welded structure)

获批“同轴耦合器”（输出端口设计）专利
Obtained"Coaxial coupler"(output port design)

获批“新型连接器”（2.0–4.6系列）专利
Approved the "new connector" (2.0–4.6 Series)

获批“耐高低温耦合器”（结构设计）专利
Approved "high and low temperature coupler" (structural design)

获批“一种通讯线缆的插针式连接器”发明专利
Approved an invention patent "a connector for telecom cable"

加工能力
Processing capacity

中央空调车间
Central air conditioning plant

走芯机加工
Longitudinal lathes processing

机械手加工
Manipulator processing

设备 Equipment	CNC 数控车床 CNC lathes	CNC 数控铣床 CNC Milling Machine	冲压机 Punching machine	研磨机 Lapping machine	压铸机 Die-casting machine
数量（台） Quantity (Sets)	2130	1810	50	12	12

自动化生产工艺
AUTOMATIC

- 数百台现代化数控车床及多功能加工机床，生产出高精度、高品质的产品；
- 半自动 / 自动化连接器组装线；
- 国内首家引入高盐雾能力电镀镀种“锡镍合金”；
- 精密检测仪器保证产品制造过程的精确性和稳定性。

- With hundreds units of CNC machines and automatic lathes which can produce precise metal parts in excellent quality .
- Semi-automatic/ automatic connector assembly line;
- First company to develop and launch the high NSS performance electroplating "Tin-Nickel";
- High precision measuring instrument ensure the accuracy and stability of the manufacturing process.

我们承诺国昌产品的质量一定会超出您的预期、满足您的需求。 我们的使命不仅是提供高质量的产品，还考虑到环境的友好，诸如 产品符合 RoHS 指令，和 REACH 指令。我们将专注致力于创新、投资高新设备，为员工提供坚实、稳定的长期发展。

Guochang is committed to exceeding your expectations and ensuring your complete satisfaction. So, we invest in innovation, equipment and our people to ensure we are providing the best solutions to our customers. Our team of highly skilled employees enable us to provide reliable, high quality interconnect solutions that meet customers'expectations and environmental compliance regulations(e.g. RoHS and REACH).

化学分析实验室
Chemical Lab

半自动连接器装配线
Semi-automatic connector assembly line

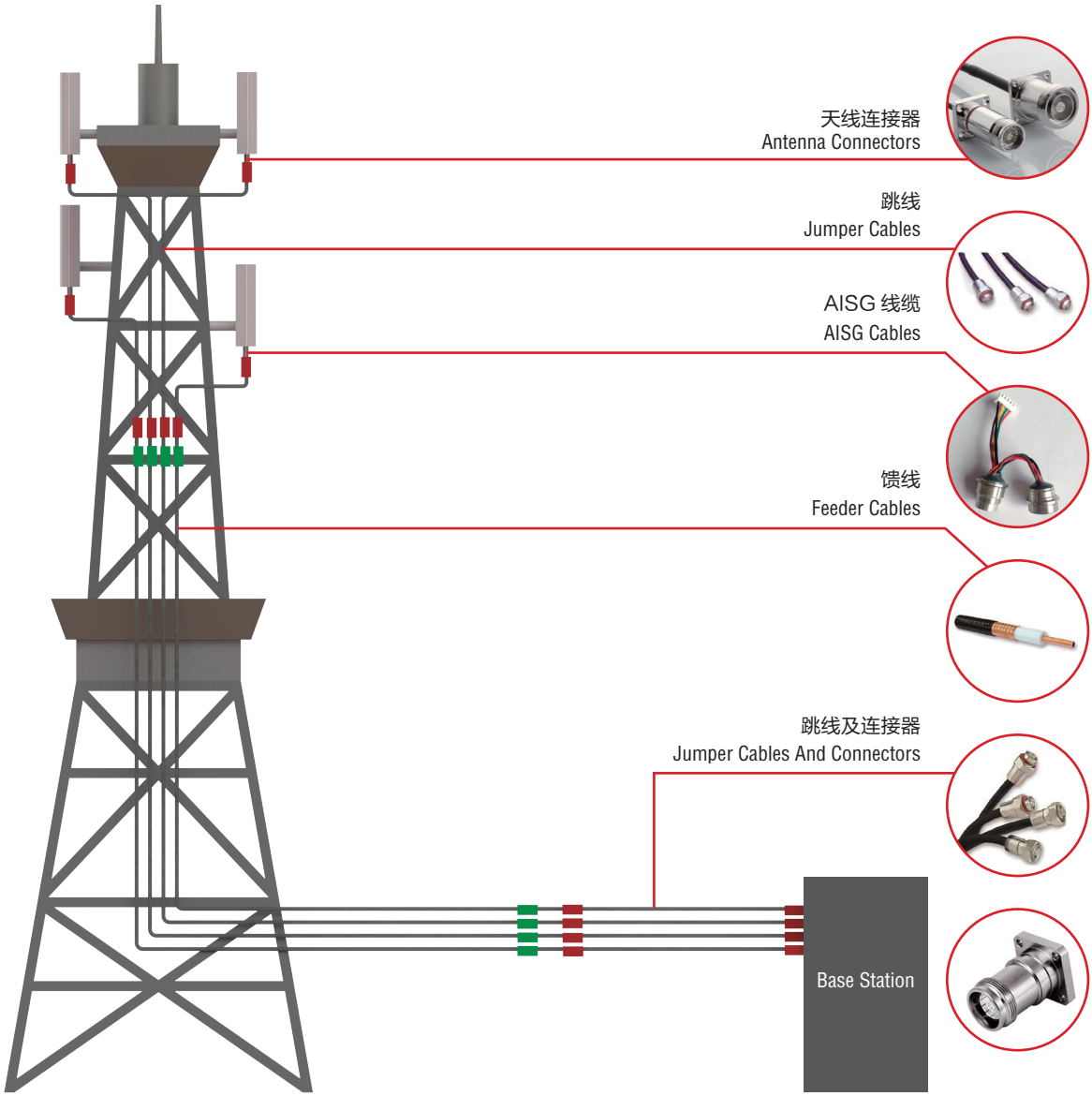
电镀自动线
Automatic plating line

产品与应用

PRODUCT AND APPLICATION

通信基站 / 直放站连接解决方案

Mobile Communication Base Station/DMS Connection Solution



国昌为客户提供定制化的基站天馈系统解决方案，充分应用于2G/3G/4G 等各移动通信系统的室内外覆盖天馈系统需求。我们以优秀产品设计，精密的加工制造，卓越及稳定的机械性能和电气性能，良好的耐侯性，为您提供高品质的天馈系统连接解决方案。

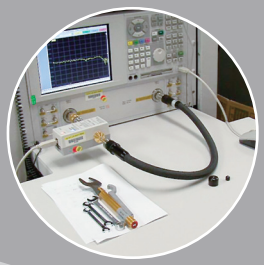
Guochang offers our customers customized RF solutions for BTS antenna and feeder systems covered 2G/3G/4G mobile communication for both indoor and outdoor coverage. With innovative design and precise manufacturing to yield the excellent electrical, mechanical and environmental performance.

微波通讯
COMMUNICATION

汽车电子
AUTOMOTIVE

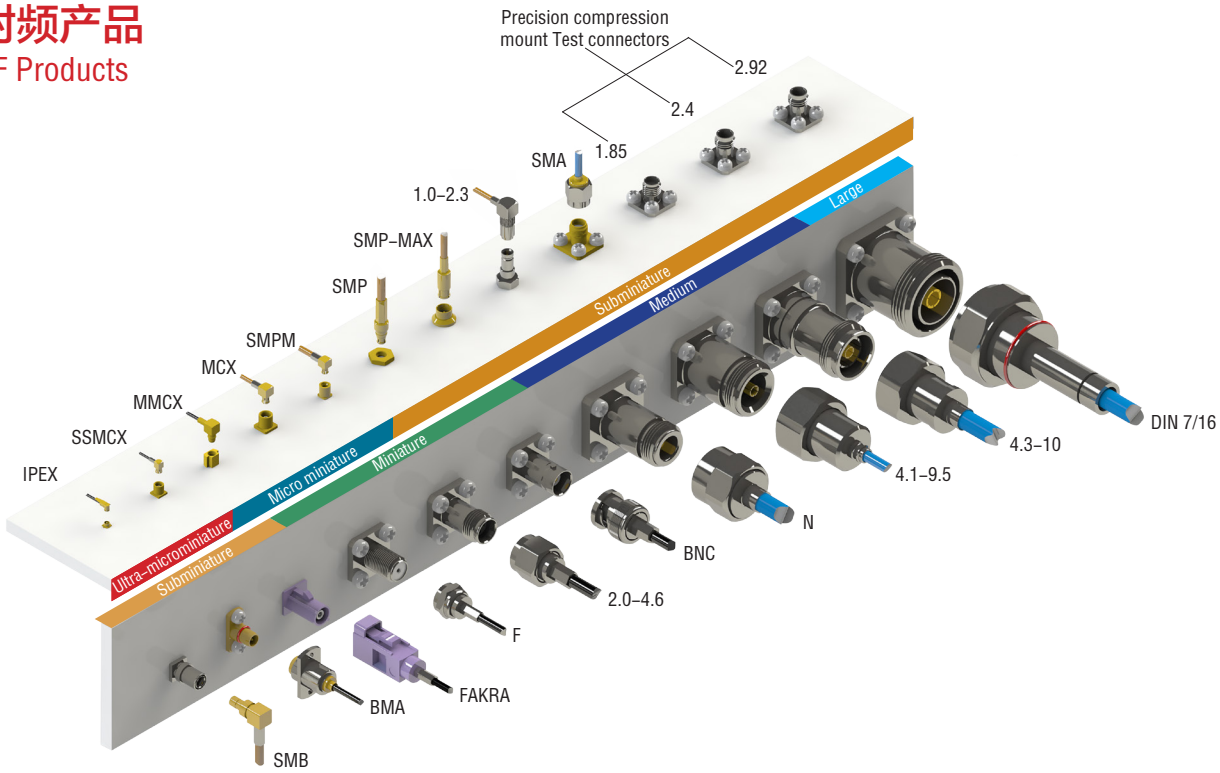
医疗电子
MEDICAL

轨道交通
RAILWAY

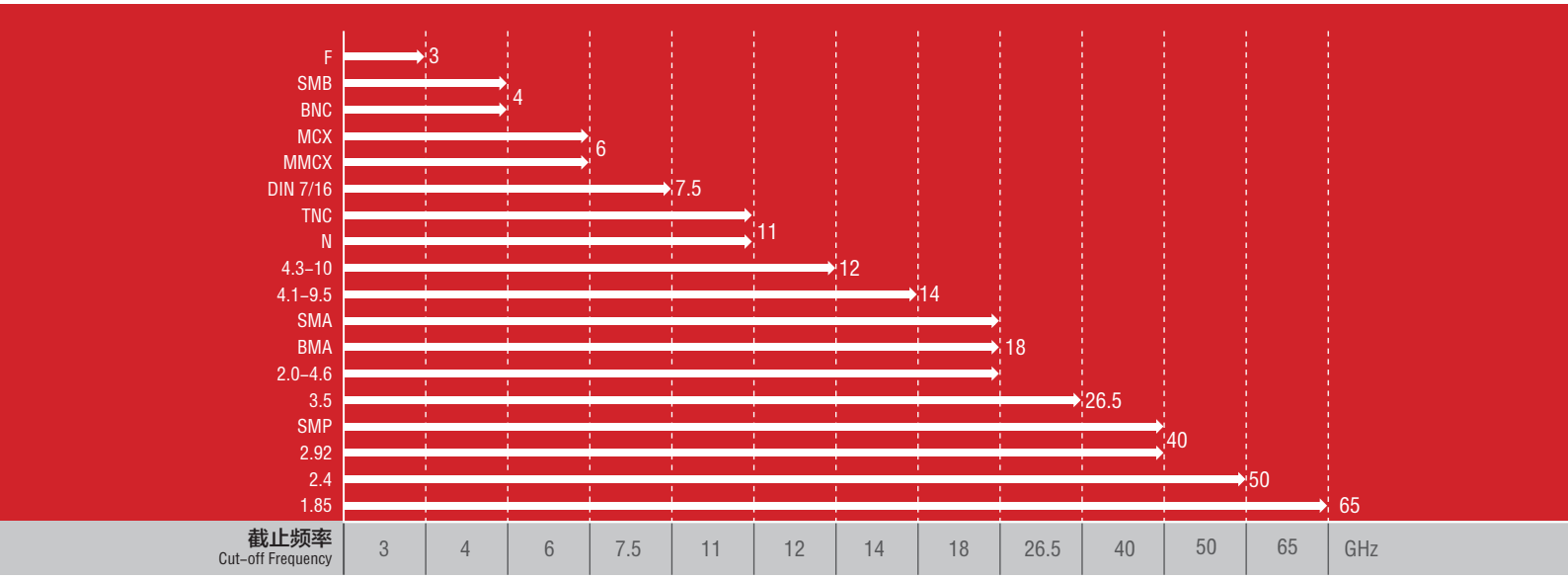


仪器测试
MEASUREMENT

射频产品
RF Products



连接器系列
Connector Series



编码原则

CODE NUMBER DESIGNATION

连接器

Connector

50 A3 A 1 1 S –A01 –001

流水号	Successive Number

应用方式	Application
A,B,C,D: 柔性线	A,B,C,D: Flexible Cable
S: 半刚 / 半柔线缆	S: Semi-Rigid Cable / Semi-Flexible Cable
L: 螺纹线缆	L: Corrugated Cable
T: 其它	T: others

接头外形	Appearance
S：直形	S: Straight
R：弯形	R: Right Angle
T：T 形	T: T
Y：Y 形	Y: Y
D：保护盖	D: Dust Cap
U：U 形	U: U
O：其它	O: Others

固定类型	Fixed Type
1：单压	1: Single Crimp
2：双压	2: Double Crimp
3：扭转旋入	3: Clamp
4：压迫固定	4: Press-In
5：插入焊接	5: Solder
6：转接头	6: Adapter
0：其它	0: Others

终端类型	Terminal Type
1：线缆	1: Cable
2：印刷电路板	2: PCB
3：前端防水	3: Front Waterproof
4：后端防水	4: Back Waterproof
5：平板	5: Flange Mount
0：其它	O: Others

接头类型	Connector Type
A：公头	A: Male
B：母头	B: Female
C：公转母	C: Male to Female
D：公转母转公	D: Male to Female to Male
E：母转母	E: Female to Female
F：母转公转母	F: Female to Male to Female
G：公转公转公	G: Male to Male to Male
H：母转母转母	H: Female to Female to Female
J：公转公	J: Male to Male
0：其它	O: Others

接头系列	Connector Series
A1：1.0-2.3 系列	A1: 1.0-2.3
A2：2.0-4.6 系列	A2: 2.0-4.6
A3：4.3-10 系列	A3: 4.3-10
A4：4.1-9.5 系列	A4: 4.1-9.5
A7：DIN 7/16 系列	A7: DIN 7/16
BM：BMA 系列	BM: BMA
BN：BNC 系列	BN: BNC
FC：F 系列	FC: F
FK：FAKRA 系列	FK: FAKRA
MA：SMA 系列	MA: SMA
MB：SMB 系列	MB: SMB
MC：MMCX 系列	MC: MMCX
MX：MCX 系列	MX: MCX
NC：N 系列	NC: N
SP：SMP 系列	SP: SMP
TC：TNC 系列	TC: TNC

阻抗	Impedance
50：50 欧姆	50：50 OHMS
75：75 欧姆	75：75 OHMS

转接器

Adapter

接头阻抗 Impedance + 接头系列 Connector Series + 接头外形 Appearance + 接头系列 Connector Series

线缆组件

Cable Assembly

接头系列 1 Connector Series1 + 接头系列 2 Connector Series2 + 线缆类型 Cable Type + 线缆长度 Cable Length

射频同轴连接器

RF COAXIAL CONNECTORS

射频同轴连接器

RF COAXIAL CONNECTORS

MMCX

产品特点

- 频率可达到 6 GHz；
- 驻波比（直式）：≤ 1.15 @4GHz；
- 快速连接 / 分开，节省安装时间；
- 提供多种形式：插座（直型和弯型），印刷电路板（直型和弯型）。

Product Features

- Frequency range up to 6GHz;
- VSWR(straight connector): ≤ 1.15 @4GHz;
- Quick connect / disconnect snap-on mating reduces installation time;
- Available in many styles: Plugs(Straight and Right Angle) and Printed Circuit Board (Straight and Right Angle) .

应用范围

- 基站；
- 天线；
- 网络应用；
- 射频测试系统；
- 仪器仪表；
- 电信系统；
- GPS 系统；
- 无线电板。

Application

- Base Station；
- Antenna；
- Broadband communication；
- RF test；
- Instrumentation；
- Telecommunication；
- GPS Receiver；
- Radio Board.

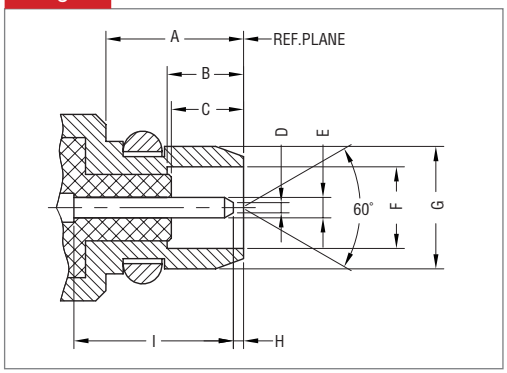
介面尺寸

标准：CECC 22000

Interface Dimension

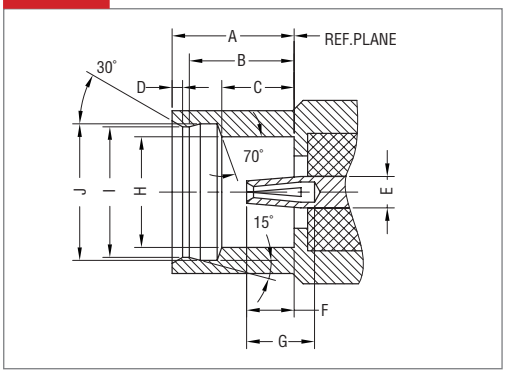
Standard：CECC 22000

Plug



NO.	DIMENSION	
	mm	inch
A	2.69 Min.	0.106 Min.
B	1.45 Min.	0.057 Min.
C	1.23 Min.	0.048 Min.
D	0.20 Max.	0.008 Max.
E	0.39~0.43	0.015~0.017
F	1.58~1.62	0.062~0.064
G	2.40 Max.	0.094 Max.
H	0.00~0.25	0.000~0.010
I	3.15 Max.	0.124 Max.

Jack



NO.	DIMENSION	
	mm	inch
A	2.59~2.65	0.102~0.104
B	2.31~2.34	0.091~0.092
C	1.58~1.62	0.062~0.064
D	0.23 Max.	0.009 Max.
E	0.70 Ref.	0.028 Ref.
F	0.89~1.19	0.035~0.047
G	1.40 Min.	0.055 Min.
H	2.41 Min.	0.095 Min.
I	2.87~2.90	0.113~0.114
J	3.00~3.04	0.118~0.120

技术参数
Technical Specification

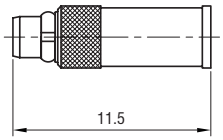
电气性能	参数		Electrical Data	Data	
频段范围	50 Ω		Impedance	50 Ω	
电压驻波比	DC-6GHz		Frequency Range	DC-6GHz	
插入损耗	1.15 Max(0-4GHz); 1.40 Max(4-6GHz).		VSWR(f=GHz)	1.15 Max(0-4GHz); 1.40 Max(4-6GHz).	
测试电压	500V rms		Test Voltage	500V rms	
工作电压	335V rms		Work Voltage	335V rms	
绝缘阻抗	⩾ 1000MΩ		Insulation Resistance	⩾ 1000MΩ	
接触电阻	内导体 : 10 mΩ Max; 外导体 : 5 mΩ Max.		Contact Resistance	Center Contact: 10 mΩ Max; Outer Contact: 5mΩ Max.	
机械性能	**参数**		**Mechanical Data**	**Data**	
插拔次数	⩾ 500		Mating Cycles	⩾ 500	
啮合力	⩽ 3.4 lbs.		Engagement Force	⩽ 3.4 lbs.	
分离力	1.4 lbs. to 3.4 lbs.		Disengagement Force	1.4 lbs. to 3.4 lbs.	
内导体保持力	轴向⩾ 2.3 lbs.		Center Contact Captivation	axial ⩾ 2.3 lbs.	
材料特性	**参数**		**Material Data**	**Data**	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀金	Body	Brass	Gold Plated
内导体	黄铜 / 铍铜	镀金	Center Contact	Brass/Beryllium Copper	Gold Plated
扣环	铍铜	镀金	Ring	Beryllium Copper	Gold Plated
绝缘体	PTFE		Insulator	PTFE	
环境特性	**参数**		**Environmental Data**	**Data**	
温度范围	-45℃ ~+125℃		Temperature Range	-45℃ ~+125℃	
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B		Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B	
振动	MIL-STD-202 method 204. Condition D		Vibration	MIL-STD-202 method 204. Condition D	
冲击	MIL-STD-202 method 213. Condition I		Shock	MIL-STD-202 method 213. Condition I	
热冲击	MIL-STD-202 method 107. Condition B		Thermal Shock	MIL-STD-202 method 107. Condition B	
抗潮湿性	MIL-STD-202 method 106		Moisture Resistance	MIL-STD-202 method 106	

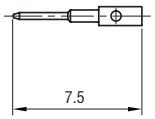
注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

MMCX

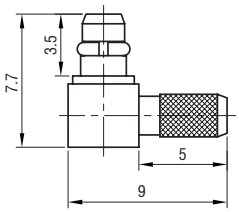
Straight Solder Plug

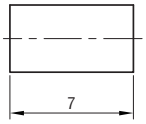




Part Number	50MCA15S-S01
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

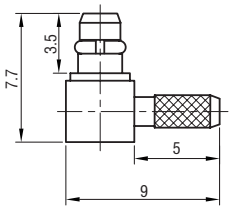
Right Angle Crimp Plug

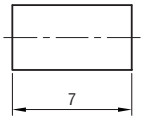




Part Number	50MCA11R-A02-001
Cable Group	RG174, RG316/U
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

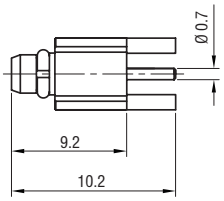
Right Angle Crimp Plug

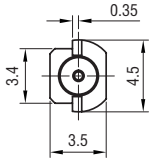




Part Number	50MCA11R-A03-003
Cable Group	RG178/U
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

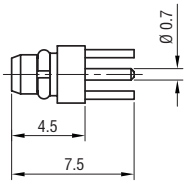
Straight PCB Mount Plug

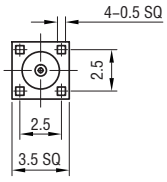




Part Number	50MCA25S-P01-001
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

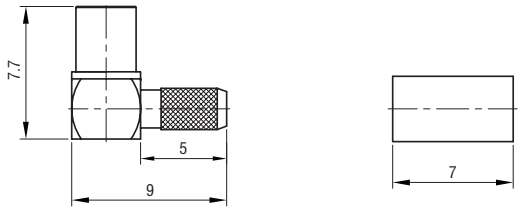
Straight PCB Mount Plug





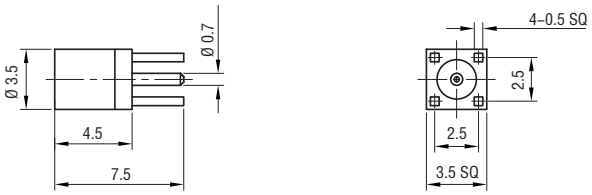
Part Number	50MCA25S-P02
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Right Angle Crimp Jack



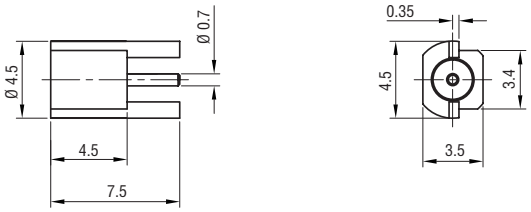
Part Number	50MCB11R–A02
Cable Group	RG174, RG316/U
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight PCB Mount Jack



Part Number	50MCB25S–P03
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight PCB Mount Jack



Part Number	50MCB25S–P04–001
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight PCB Mount Jack

Part Number	50MCB25S–P05
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight PCB Mount Jack

Part Number	50MCB25S–P06
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

MCX

产品特点

- 频率可达到 6 GHz；
- 驻波比（直式）：≤ 1.20；
- 快速连接 / 分离推入式配合，节省安装时间；
- 卓越的可靠性。

Product Features

- Frequency range up to 6GHz;
- VSWR(straight connector): ≤ 1.20;
- Quick connect / disconnect snap-on mating reduces installation time;
- High reliability.

应用范围

- 基站；
- 天线；
- 汽车电子
- 无线通信系统；
- 射频测试仪器；
- 仪器仪表；
- 电信系统；
- GPS 系统。

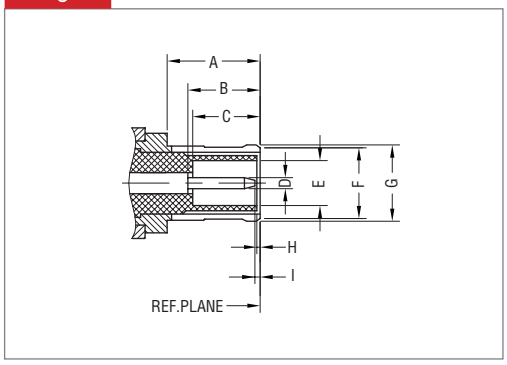
Application

- Base Station;
- Antenna;
- Automotive;
- Wireless communication;
- RF test and measurement equipment;
- Instrumentation;
- Telecommunication;
- GPS Receiver.

介面尺寸

标准：IEC 60169-36 / CECC 22220

Plug

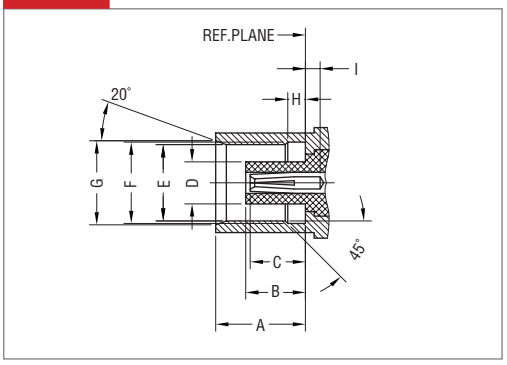


NO.	DIMENSION	
	mm	inch
A	4.15 Min.	0.163 Min.
B	2.80~3.20	0.110~0.126
C	2.80 Min.	0.110 Min.
D	0.48~0.53	0.019~0.021
E	2.00 Min.	0.079 Min.
F	3.60 Max.	0.142 Max.
G	3.80 Max.	0.150 Max.
H	0.00~0.30	0.00~0.012
I	0.15 Min.	0.006 Min.

Interface Dimension

Standard：IEC 60169-36 / CECC 22220

Jack



NO.	DIMENSION	
	mm	inch
A	4.00~4.12	0.157~0.162
B	2.60~2.80	0.102~0.110
C	2.30~2.80	0.091~0.110
D	1.98 Max.	0.078 Max.
E	3.42~3.48	0.135~0.137
F	3.60~3.75	0.142~0.148
G	3.80 Min.	0.150 Min.
H	0.75~0.85	0.030~0.033
I	0.00 Min.	0.000 Min.

技术参数
Technical Specification

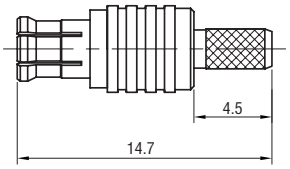
电气性能	参数		Electrical Data	Data	
阻抗	50 Ω		Impedance	50 Ω	
频段范围	DC-6GHz		Frequency Range	DC-6GHz	
电压驻波比	1.20 Max		VSWR	1.20 Max	
插入损耗 (f=GHz)	≤ 0.1x √f dB		Insertion loss(f=GHz)	≤ 0.1x √f dB	
测试电压	750V rms		Test Voltage	750V rms	
工作电压	335V rms		Working Voltage	335V rms	
绝缘阻抗	≥ 1000MΩ		Insulation Resistance	≥ 1000MΩ	
接触电阻	内导体 : 5 mΩ Max; 外导体 : 2.5 mΩ Max.		Contact Resistance	Center Contact: 5 mΩ Max; Outer Contact: 2.5 mΩ Max.	
机械性能	**参数**		**Mechanical Data**	**Data**	
插拔次数	≥ 500		Mating Cycles	≥ 500	
啮合力	≤ 25N		Engagement Force	≤ 25N	
分离力	8N~20N		Disengagement Force	8N~20N	
内导体保持力	轴向≥ 10N		Center Contact Captivation	axial ≥ 10N	
材料特性	**参数**		**Material Data**	**Data**	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 铍铜	镀金 / 镀镍	Body	Brass/ Beryllium Copper	Gold Plated / Nickel Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金	Center Contact	Brass/Phosphor Bronze/Beryllium Copper	Gold Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	
环境特性	**参数**		**Environmental Data**	**Data**	
温度范围	-45℃ ~+125℃		Temperature Range	-45℃ ~+125℃	
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B		Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B	
振动	MIL-STD-202 method 204. Condition D		Vibration	MIL-STD-202 method 204. Condition D	
冲击	MIL-STD-202 method 213. Condition I		Shock	MIL-STD-202 method 213. Condition I	
热冲击	MIL-STD-202 method 107. Condition B		Thermal Shock	MIL-STD-202 method 107. Condition B	
抗潮湿性	MIL-STD-202 method 106		Moisture Resistance	MIL-STD-202 method 106	

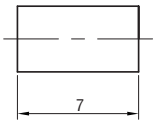
注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

MCX

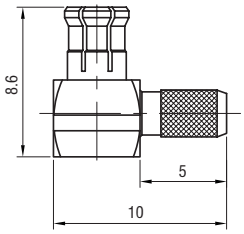
Straight Crimp Plug

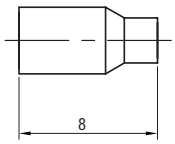




Part Number	50MXA11S-A03
Cable Group	RG178/U
Body	Beryllium Copper, Gold Plating
Center Contact	Brass, Gold Plating

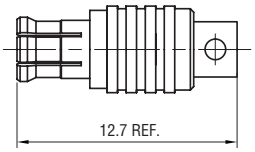
Straight Crimp Plug

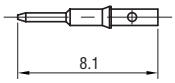




Part Number	50MXA11R-A02-008
Cable Group	0.8D
Body	Beryllium Copper, Nickel Plating
Center Contact	Brass, Gold Plating

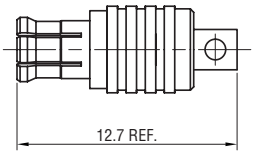
Straight Solder Plug

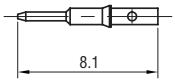




Part Number	50MXA15S-S01
Cable Group	RG405, .086"
Body	Beryllium Copper, Gold Plating
Center Contact	Brass, Gold Plating

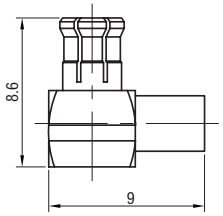
Straight Solder Plug

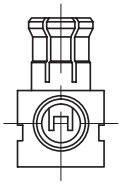




Part Number	50MXA15S-S04
Cable Group	.047"
Body	Beryllium Copper, Gold Plating
Center Contact	Brass, Gold Plating

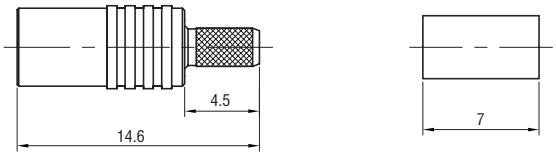
Right Angle Solder Plug





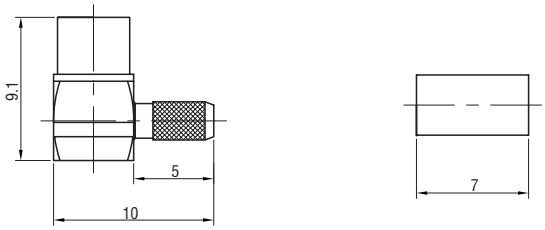
Part Number	50MXA15R-S01
Cable Group	–
Body	Beryllium Copper, Gold Plating
Center Contact	Brass, Gold Plating

Straight Crimp Jack



Part Number	50MXB11S-A02
Cable Group	RG316, RG174
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Right Angle Crimp Jack

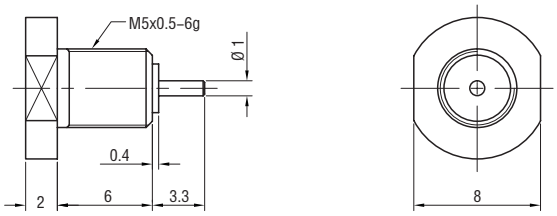


Part Number	50MXB11R-A02
Cable Group	RG316, RG174
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight PCB Mount Jack

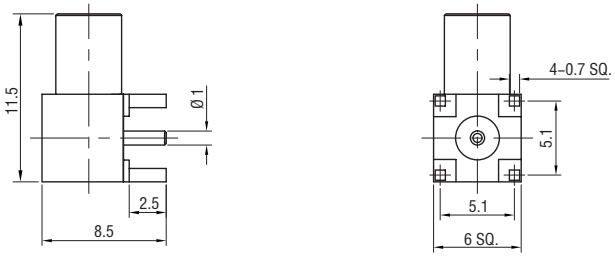
Part Number	50MXB25S-P01
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Bulkhead Mount Jack



Part Number	50MXB55S-P15
Cable Group	RG402, .141"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Right Angle PCB Mount Jack



Part Number	50MXB25R-P05
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

SMB

产品特点

- 频率可达 4GHz；
- 属于超小型同轴连接器；
- VSWR(直式): ≤ 1.30
- 推入式锁定安装 ;
- 有限空间里快速连接 / 安装紧密。

Product Features

- Frequency range up to 4GHz ;
- Subminiature Coaxial connector;
- VSWR(straight connector): ≤ 1.30 ;
- Snap-on coupling;
- Fast connection in limited spaces/ High packing density .

应用范围

- 基站；
- 移动通信系统；
- 电子元件；
- 测试仪器；
- 视频应用；
- 计算机 / 局域网；
- 民用及军事通讯；
- 航天航空。

Application

- Base Station；
- Mobile Communication System；
- Components；
- Instrumentation；
- Video System；
- PC/LAN；
- Civil and Military Telecommunication；
- Aeronautics.

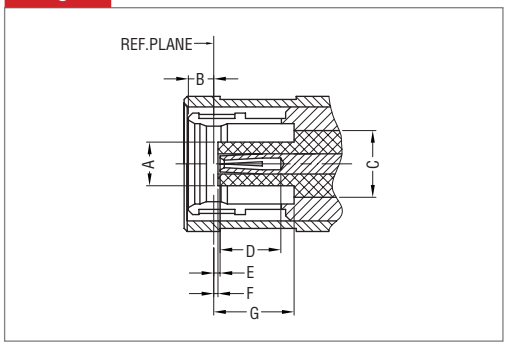
介面尺寸

标准：IEC60169-10 / CECC 22130

Interface Dimension

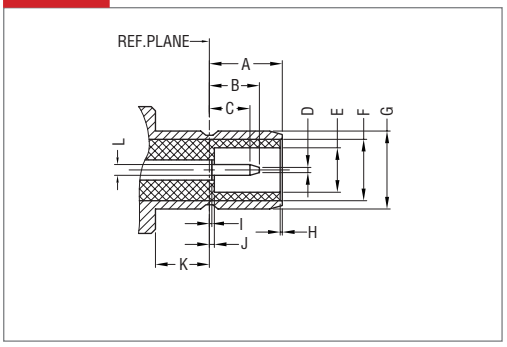
Standard：IEC60169-10 / CECC 22130

Plug



NO.	DIMENSION	
	mm	inch
A	2.06 Max.	0.081 Max.
B	1.63 Max.	0.064 Max.
C	3.05 Non.	0.120 Non.
D	2.97 Min.	0.117 Min.
E	0.18~0.94	0.007~0.037
F	0.18 Min.	0.007 Min.
G	3.58 Min.	0.141 Min.

Jack



NO.	DIMENSION	
	mm	inch
A	3.33~3.58	0.131~0.141
B	2.97 Max.	0.117 Max.
C	1.32 Min.	0.052 Min.
D	0.18 Max.	0.007 Max.
E	2.08 Min.	0.082 Min.
F	3.05 Nom.	0.120 Nom.
G	3.71 Max.	0.146 Max.
H	0.00 Min.	0.000 Min.
I	0.18 Max.	0.007 Max.
J	0.18 Max.	0.007 Max.
K	1.65 Min.	0.065 Min.
L	0.48~0.53	0.019~0.021

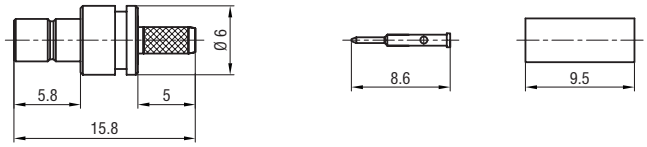
技术参数
Technical Specification

电气性能	参数		Electrical Data	Data	
阻抗	50 Ω		Impedance	50 Ω	
频段范围	DC-4GHz		Frequency Range	DC-4GHz	
电压驻波比	≤ 1.30		VSWR	≤ 1.30	
插入损耗 (f=GHz)	≤ 0.1x √f dB		Insertion loss(f=GHz)	≤ 0.1x √f dB	
测试电压	750V rms		Test Voltage	750V rms	
工作电压	250V rms		Work Voltage	250V rms	
绝缘阻抗	≥ 5000MΩ		Insulation Resistance	≥ 5000MΩ	
接触电阻	内导体 : 5 mΩ Max; 外导体 : 2.5 mΩ Max.		Contact Resistance	Center Contact: 5 mΩ Max; Outer Contact: 2.5 mΩ Max.	
射频泄漏	≥ 55 dB@1GHz		Rf-Leakage	≥ 55 dB@1GHz	
机械性能	**参数**		**Mechanical Data**	**Data**	
插拔次数	≥ 500		Mating Cycles	≥ 500	
啮合力	≤ 63N		Engagement Force	≤ 63N	
分离力	8~63N		Disengagement Force	8N~63N	
内导体保持力	轴向≥ 10N		Center Contact Captivation	axial ≥ 10N	
材料特性	**参数**		**Material Data**	**Data**	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀金 / 镀镍	Body	Brass	Gold Plated/ Nickel Plated
连接螺母	黄铜	镀金 / 镀镍	Coupling Nut	Brass	Gold Plated/ Nickel Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金	Center Contact	Brass/ Phosphor Bronze/Beryllium Copper	Gold Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	
环境特性	**参数**		**Environmental Data**	**Data**	
温度范围	-45℃ ~+125℃		Temperature Range	-45℃ ~+125℃	
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B		Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B	
振动	MIL-STD-202 method 204. Condition B		Vibration	MIL-STD-202 method 204. Condition B	
冲击	MIL-STD-202 method 213. Condition I		Shock	MIL-STD-202 method 213. Condition I	
热冲击	MIL-STD-202 method 107. Condition B		Thermal Shock	MIL-STD-202 method 107. Condition B	
抗潮湿性	MIL-STD-202 method 106		Moisture Resistance	MIL-STD-202 method 106	

注：这些特性具有典型代表性，不适用于所有连接器。

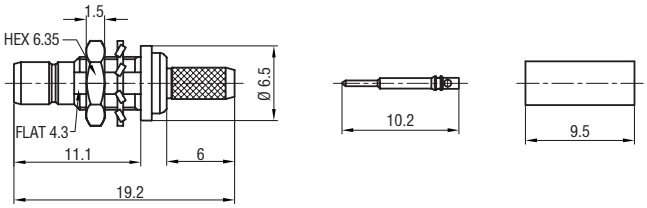
Note: These characteristics are typical and may not apply to all connectors.

Straight Crimp Plug



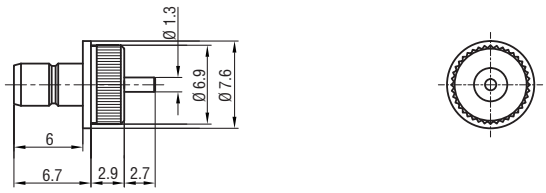
Part Number	50MBA11S-A04
Cable Group	1.5DS
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug



Part Number	50MBA11S-A04-002
Cable Group	1.5DS
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Press-In Plug

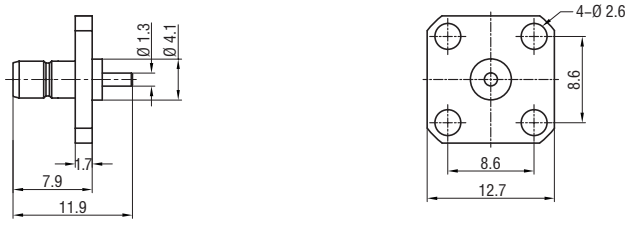


Part Number	50MBA05S-P01
Cable Group	-
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight PCB Mount Plug

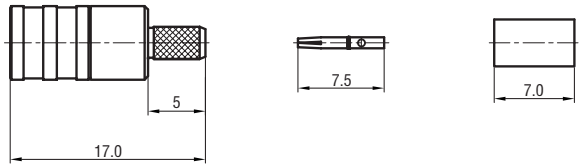
Part Number	50MBA25S-P01-001
Cable Group	-
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Panel Mount Plug



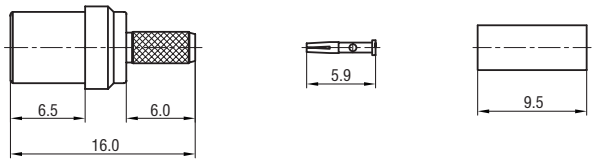
Part Number	50MBA55S-P01
Cable Group	-
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Crimp Jack



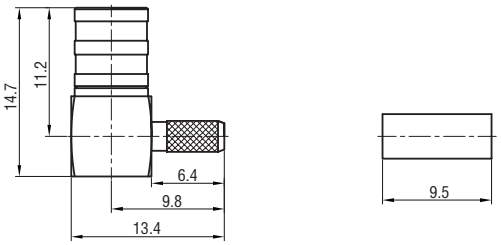
Part Number	50MBB05S–A02–017
Cable Group	RG174, RG316/U
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Crimp Jack



Part Number	50MBB11S–A04–001
Cable Group	1.5DS
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Right Angle Crimp Jack

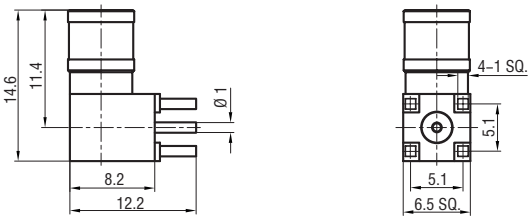


Part Number	50MBB11R–A02–002
Cable Group	RG174, RG316/U
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight PCB Mount Jack

Part Number	50MBB25S–P01
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Right Angle PCB Mount Jack



Part Number	50MBB25R–P04
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

SMA

产品特点

- 频率可达到 18 GHz；
- 驻波比（直式）：≤ 1.05；
- 最优质的电气性能；
- 高品质标准；
- 高可靠性，寿命周期长 。

Product Features

- Frequency range up to 18 GHz;
- VSWR (straight connector): ≤ 1.05;
- Optimal electrical characteristics;
- High quality standard;
- High reliability and long life cycle.

应用范围

- 基站；
- 移动通讯系统；
- 电子元件；
- 测试仪器；
- 军用 / 航空；
- 计算机 / 局域网；
- 过程控制系统；
- 电信。

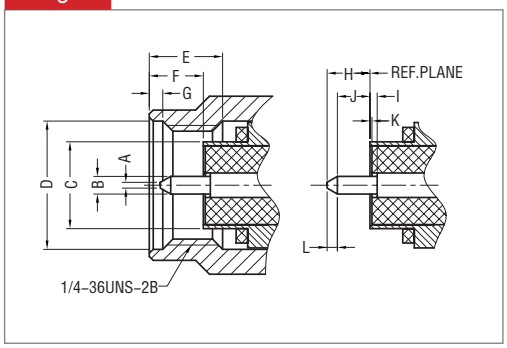
Application

- Base Station；
- Mobile communication；
- Components；
- Instrumentation；
- Military /Aeronautics；
- PC/LAN；
- Process Controls；
- Telecom.

介面尺寸

标准：IEC60169-15 / MIL-STD-348A

Plug

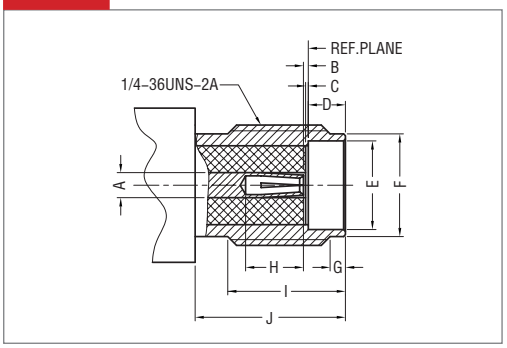


NO.	DIMENSION	
	mm	inch
A	0.38 Max.	0.015 Max.
B	0.902~0.940	0.0355~0.0370
C	4.59 Max.	0.1808 Max.
D	6.35 Min.	0.250 Min.
E	3.30 Min.	0.130 Min.
F	3.43 Max.	0.135 Max.
G	0.38~1.14	0.015~0.045
H	2.54 Max.	0.100 Max.
I	0.25 Max.	0.010 Max.
J	1.27 Min.	0.050 Min.
K	0.25 Max.	0.010 Max.
L	0.38 Min.	0.015 Min.

Interface Dimension

Standard：IEC60169-15 / MIL-STD-348A

Jack



NO.	DIMENSION	
	mm	inch
A	1.245~1.295	0.049~0.051
B	0.00~0.25	0.000~0.010
C	0.00~0.25	0.000~0.010
D	1.88~1.98	0.074~0.078
E	4.60~4.67	0.181~0.184
F	5.28~5.49	0.208~0.216
G	0.38~1.14	0.015~0.045
H	2.92 Min.	0.115 Min.
I	4.32 Min.	0.170 Min.
J	5.54 Min.	0.218 Min.

技术参数
Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC–18GHz	Frequency Range	DC–18GHz
电压驻波比 (f=GHz)	≤ 1.1+0.02x f	VSWR(f=GHz)	≤ 1.1+0.02x f
插入损耗 (f=GHz)	≤ 0.04x √f dB	Insertion loss(f=GHz)	≤ 0.04x √f dB
测试电压	1000V rms	Test Voltage	1000V rms
工作电压	480V rms	Work Voltage	480V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 3.0 mΩ Max; 外导体 : 2.0 mΩ Max.	Contact Resistance	Center Contact: 3.0 mΩ Max; Outer Contact: 2.0 mΩ Max.
射频泄漏	≥ 100 dB	Rf–Leakage	≥ 100 dB
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	1.7Nm Max; 建议: 0.8~1.1Nm	Coupling Torque	1.7Nm Max; Rec. 0.8~1.1Nm
连接螺母保持力	≥ 270N	Coupling Nut Retention	≥ 270N
内导体保持力	轴向≥ 27N 径向≥ 3Ncm	Center Contact Captivation	Axial ≥ 27N Radial ≥ 3Ncm

材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 不锈钢	镀金 / 镀银 / 镀镍 / 镀三元合金 / 钝化	Body	Brass/Stainless Steel	Gold Plated/Silver Plated/Nickel Plated/ White Bronze Plated/Passivation
连接螺母	黄铜 / 不锈钢	镀金 / 镀镍 / 镀三元合金 / 钝化	Coupling Nut	Brass/Stainless Steel	Gold Plated/Nickel Plated/White Bronze Plated/ Passivation
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/Beryllium Copper	Gold Plated/Silver Plated
压接套管	紫铜 / 黄铜	镀金 / 镀银	Crimp Ferrule	Copper/Brass	Gold Plated/Silver Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	

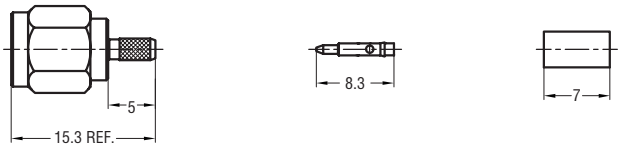
环境特性	参数	Environmental Data	Data
温度范围	–45℃ ~+125℃	Temperature Range	–45℃ ~+125℃
耐腐蚀性（盐雾）	MIL–STD–202 method 101. Condition B	Corrosion (Salt Spray)	MIL–STD–202 method 101. Condition B
振动	MIL–STD–202 method 204. Condition D	Vibration	MIL–STD–202 method 204. Condition D
冲击	MIL–STD–202 method 213. Condition I	Shock	MIL–STD–202 method 213. Condition I
热冲击	MIL–STD–202 method 107. Condition B	Thermal Shock	MIL–STD–202 method 107. Condition B
抗潮湿性	MIL–STD–202 method 106	Moisture Resistance	MIL–STD–202 method 106

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

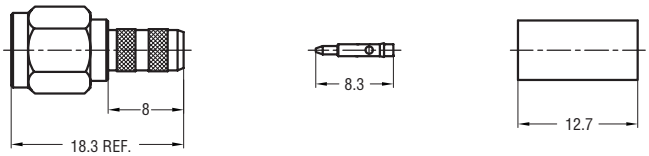
SMA

Straight Crimp Plug



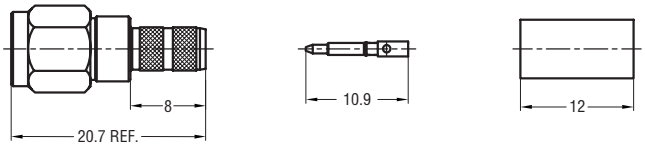
Part Number	50MAA11S-A02
Cable Group	RG316, RG174
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug



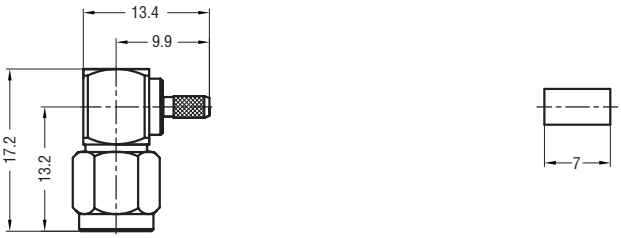
Part Number	50MAA11S-A09
Cable Group	RG223/U
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug



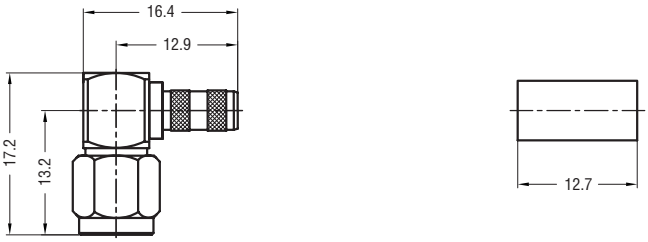
Part Number	50MAA11S-A41-001
Cable Group	RG58/U
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

Right Angle Crimp Plug



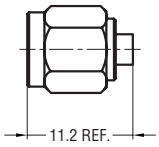
Part Number	50MAA11R-A02-005
Cable Group	RG316, RG174
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Right Angle Crimp Plug



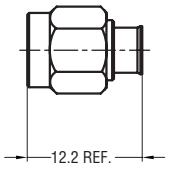
Part Number	50MAA11R-A09-002
Cable Group	RG223/U
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Solder Plug



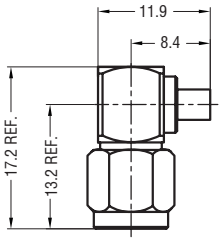
Part Number	50MAA11S-S01
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Solder Plug



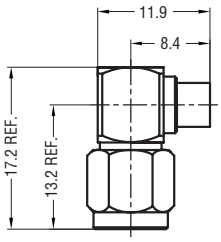
Part Number	50MAA11S-S02-001
Cable Group	RG402, .141"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Right Angle Solder Plug



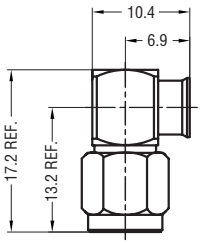
Part Number	50MAA11R-S01-004
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Right Angle Solder Plug



Part Number	50MAA11R-S02-004
Cable Group	RG402, .141"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

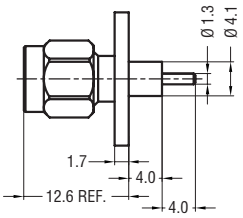
Right Angle Solder Plug

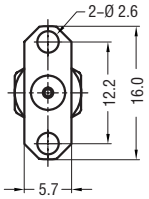


Part Number	50MAA11R-S02-004
Cable Group	RG142/U
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

SMA

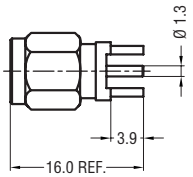
Straight Panel Mount Plug

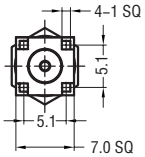




Part Number	50MAA55S–P01
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

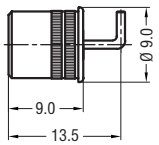
Straight PCB Mount Plug

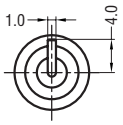




Part Number	50MAA25S–P01
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

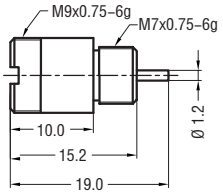
Straight Press–In Mount Plug





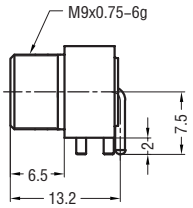
Part Number	50MAA00S–T04
Cable Group	–
Body	Stainless Steel, Passivated
Center Contact	Brass, Gold Plating

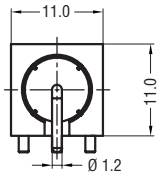
Straight Bulkhead Mount Plug



Part Number	50MAA05S–P04–001
Cable Group	–
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

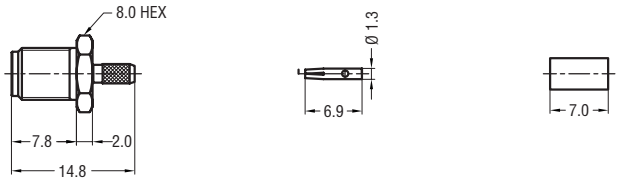
Right Angle PCB Mount Plug





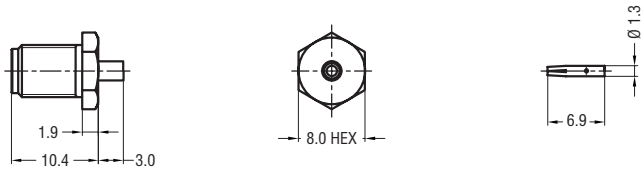
Part Number	50MAA25R–P00
Cable Group	RG142/U
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Crimp Jack



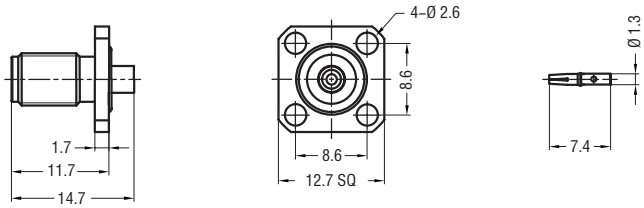
Part Number	50MAB11S–A01
Cable Group	RG316, RG174
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Solder Jack



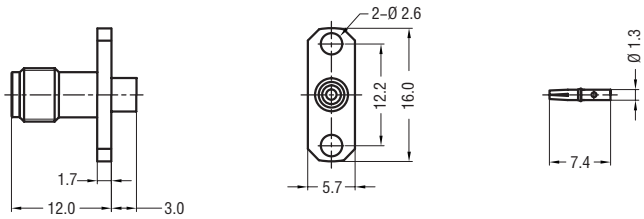
Part Number	50MAB15S–S04
Cable Group	.047"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Solder Jack



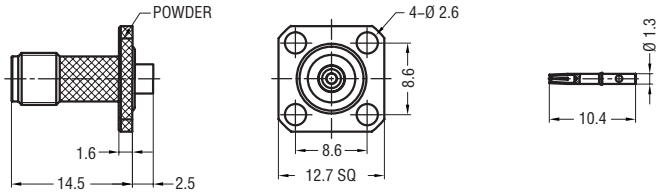
Part Number	50MAB55S–S01
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Solder Jack



Part Number	50MAB55S–S02
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

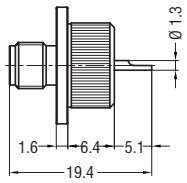
Straight Solder Jack

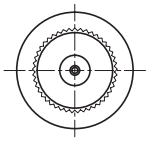


Part Number	50MAB55S–A02–001
Cable Group	RG316
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

SMA

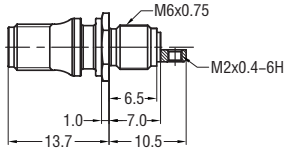
Straight Press-In Jack





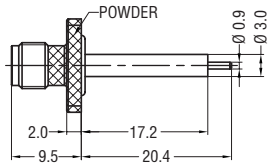
Part Number	50MAB05S-P03
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

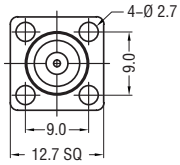
Straight Bulkhead Mount Jack



Part Number	50MAB55S-P65
Cable Group	–
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

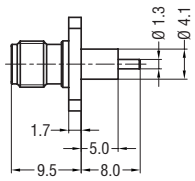
Straight Panel Mount Jack

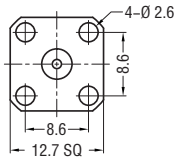




Part Number	50MAB55S-P59-030
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

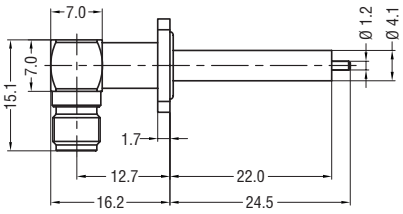
Straight Panel Mount Jack

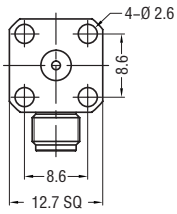




Part Number	50MAB55S-P83-030
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

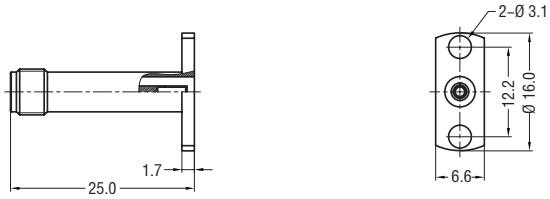
Right Angle Panel Mount Jack





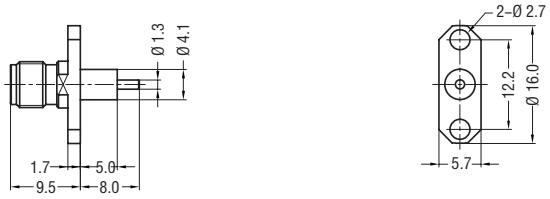
Part Number	50MAB55R-P15
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



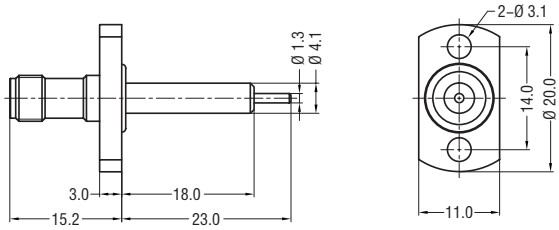
Part Number	50MAB55S-P83-024
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Panel Mount Jack



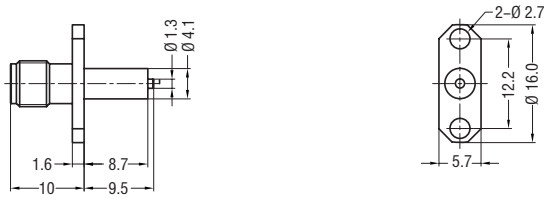
Part Number	50MAB55S-P83-032
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Panel Mount Jack



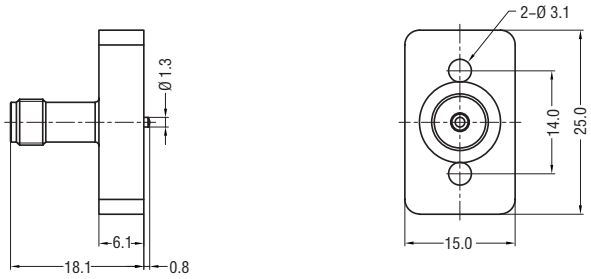
Part Number	50MAB55S-P83-040
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



Part Number	50MAB55S-P83-041
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Panel Mount Jack(POGO Pin)



Part Number	50MAB55S-P83-041
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

SMP

产品特点

- 频率可达 40GHz；
- VSWR(直式): ≤ 1.50;
- 连接器间最小距离：5mm;
- 板对板最小距离：9mm;
- 经济型板对板连接。

Product Features

- Frequency range up to 40GHz;
- VSWR(straight connector): ≤ 1.50;
- Minimum spacing connector pairs:5 mm;
- Minimum spacing board to board:9 mm;
- Economical board-to-board connections.

应用范围

- 基站；
- 电缆组件；
- 电子元件；
- 测试仪器；
- 雷达；
- 卫星；
- 电信系统。

Application

- Base Station；
- Cable Assemblies；
- Components；
- Instrumentation；
- Radar；
- Satellite；
- Telecom.

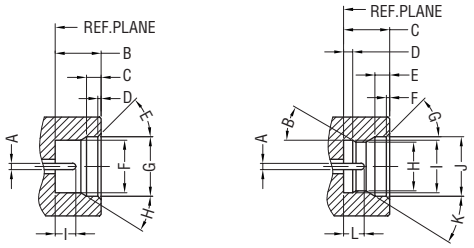
介面尺寸

标准：IEC61169-44 / MIL-STD-348A

Interface Dimension

Standard：IEC61169-44 / MIL-STD-348A

Plug

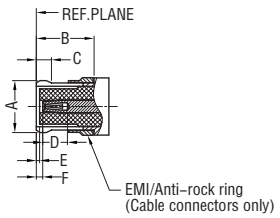


Smooth bore　　Limited detent and Full detent

NO.	DIMENSION	
	mm	inch
A	0.38~0.41	0.015~0.016
B	2.74~2.84	0.108~0.112
C	0.84~0.94	0.033~0.037
D	0.08~0.20	0.003~0.008
E	40° ~50°	40° ~50°
F	3.15~3.20	0.124~0.126
G	3.53~3.68	0.139~0.145
H	31° ~33°	31° ~33°
I	1.14~1.40	0.045~0.055

NO.	DIMENSION	
	mm	inch
A	0.38~0.41	0.015~0.016
B	29° ~31°	29° ~31°
C	2.74~2.84	0.108~0.112
D	0.52~0.60	0.0204~0.0236
E	0.84~0.94	0.033~0.037
F	0.08~0.20	0.003~0.008
G	40° ~50°	40° ~50°
H	3.02~3.07 (Limited detent)	0.119~0.121 (Limited detent)
	2.92~2.97 (Full detent)	0.115~0.117 (Full detent)
I	3.15~3.20	0.124~0.126
J	3.53~3.68	0.139~0.145
K	1.14~1.40	0.045~0.055

Jack



NO.	DIMENSION	
	mm	inch
A	3.43 Max.	0.135 Max.
B	2.84 Min.	0.112 Min.
C	0.46~0.64 (Uncabled)	0.018~0.025 (Uncabled)
	0.64~0.89 (Cabled)	0.025~0.035 (Cabled)
D	1.78 Min.	0.070 Min.
E	0.00 Min.	0.00 Min.
F	0.00 Min.	0.00 Min.

技术参数
Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC-40GHz	Frequency Range	DC-40GHz
电压驻波比	≤ 1.50	VSWR	≤ 1.50
插入损耗	0.1 dB Max.@1GHz	Insertion loss	0.1 dB max.@1GHz
测试电压	500V rms	Test Voltage	500V rms
工作电压	335V rms	Work Voltage	335V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 6.0 mΩ Max; 外导体 : 2.0 mΩ Max.	Contact Resistance	Center Contact: 6.0 mΩ Max; Outer Contact: 2.0 mΩ Max.
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	≥ 500	Mating Cycles	≥ 500
啮合力	全限制式 : 68N Max. 限制式 : 45N Max. 滑入式 : 9N Max.	Engagement Force	Full detent: 68N Max. Limited detent: 45N Max. Smooth Bore: 9N Max.
分离力	全限制式 : 22N Min. 限制式 : 9N Min. 滑入式 : 2.2N Min.	Disengagement Force	Full detent: 22N Min. Limited detent: 9N Min. Smooth Bore: 2.2N Min.
内导体保持力	轴向≥ 7N	Center Contact Captivation	Axial ≥ 7N

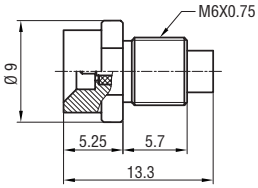
材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 铍铜	镀金 / 镀镍	Body	Brass/Beryllium Copper	Gold Plated/ Nickel Plated
连接螺母	黄铜	镀金 / 镀镍	Coupling Nut	Brass	Gold Plated/ Nickel Plated
内导体	黄铜 / 铍铜	镀金	Center Contact	Brass/Beryllium Copper	Gold Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

环境特性	参数	Environmental Data	Data
温度范围	-45℃ ~+125℃	Temperature Range	-45℃ ~+125℃
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B	Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B
振动	MIL-STD-202 method 204. Condition B	Vibration	MIL-STD-202 method 204. Condition B
冲击	MIL-STD-202 method 213. Condition A	Shock	MIL-STD-202 method 213. Condition A
热冲击	MIL-STD-202 method 107. Condition B	Thermal Shock	MIL-STD-202 method 107. Condition B
抗潮湿性	MIL-STD-202 method 106	Moisture Resistance	MIL-STD-202 method 106

注：这些特性具有典型代表性，不适用于所有连接器。

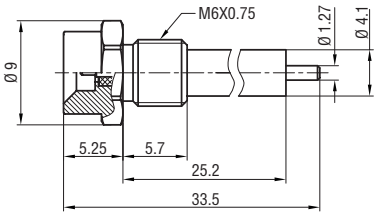
Note: These characteristics are typical and may not apply to all connectors.

Straight Solder Plug Smooth Bore



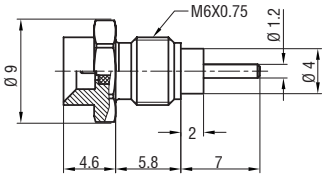
Part Number	50SPA11S-S01-015
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Bulkhead Mount Plug Smooth Bore



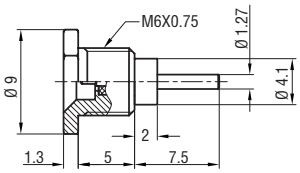
Part Number	50SPA53S-P01
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Bulkhead Mount Plug Smooth Bore



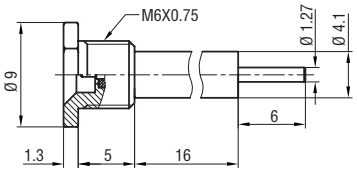
Part Number	50SPA53S-P20
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Bulkhead Mount Plug Smooth Bore



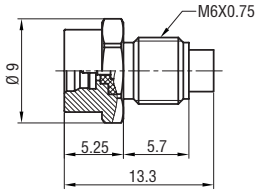
Part Number	50SPA53S-P05
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Bulkhead Mount Plug Smooth Bore



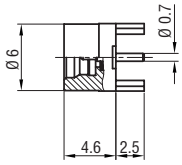
Part Number	50SPA53S-P04
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

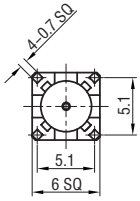
Straight Solder Plug Limited Detent



Part Number	50SPA55S-S01-016
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

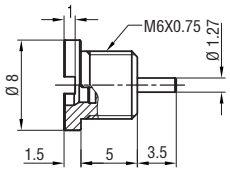
Straight PCB Mount Plug Limited Detent





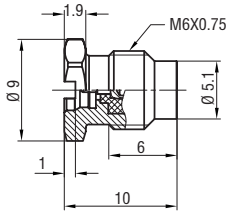
Part Number	50SPA25S-P02
Cable Group	-
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight PCB Mount Plug Limited Detent



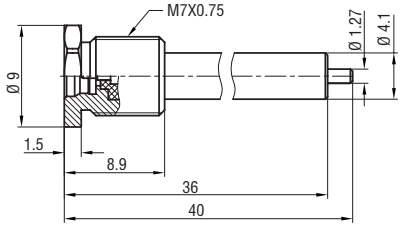
Part Number	50SPA55S-P03
Cable Group	-
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight PCB Mount Plug Limited Detent



Part Number	50SPA55S-P21
Cable Group	-
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Bulkhead Mount Plug Limited Detent



Part Number	50SPA53S-P24-006
Cable Group	-
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

TNC

产品特点

- 频率可达到 4 GHz, 最大可达到 11 GHz;
- VSWR(直式): ≤ 1.20;
- 一种螺纹连接结构的 BNC;
- 50Ω 和 75Ω 系列界面完全兼容;
- 极好的抗震性，适用于高强度环境。

Product Features

- Frequency range optimum up to 4 GHz, max. up to 11 GHz;
- VSWR(straight connector): ≤ 1.20;
- Threaded coupling mechanism of the BNC;
- Intermatedable with 50 Ω and 75 Ω , to ensure nondestructive mating;
- Excellent shock resistance for high strength environments.

应用范围

- 基站;
- 天线;
- 汽车电子;
- 测试仪器;
- 雷达;
- 航天航空;
- 网络分析仪;
- 电信系统。

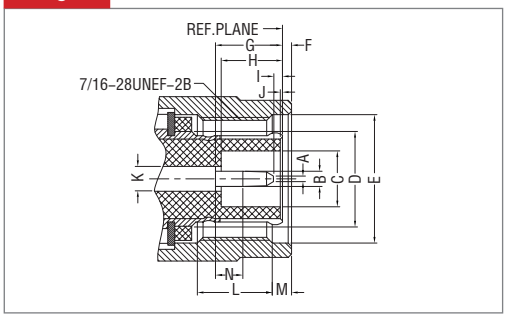
Application

- Base Station;
- Antenna;
- Automotive;
- Instrumentation;
- Radar;
- Avionics/ Aeronautics;
- Network Analyzer;
- Telecom.

介面尺寸

标准：IEC60169-17 / MIL-STD-348A

Plug

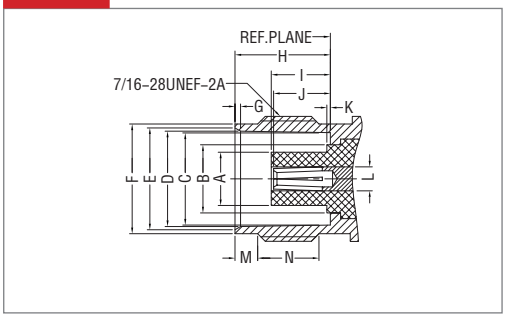


NO.	DIMENSION	
	mm	inch
A	0.64 Max.	0.025 Max.
B	1.32~1.37	0.052~0.054
C	4.83 Min.	0.190 Min.
D	8.18 Max.	0.322 Max.
E	11.18 Min.	0.440 Min.
F	1.98 Max.	0.078 Max.
G	5.33~5.84	0.210~0.230
H	5.28~5.79	0.208~0.228
I	0.08~1.02	0.003~0.040
J	0.15 Min.	0.006 Min.
K	2.06~2.21	0.081~0.087
L	3.96 Min.	0.156 Min.
M	1.60 Min.	0.063 Min.
N	1.98 Min.	0.078 Min.

Interface Dimension

Standard：IEC60169-17 / MIL-STD-348A

Jack



NO.	DIMENSION	
	mm	inch
A	4.72 Max.	0.186 Max.
B	6.50 Max.	0.256 Max.
C	8.10~8.15	0.319~0.321
D	8.31~8.46	0.327~0.333
E	8.79~9.04	0.346~0.356
F	9.60~9.68	0.378~0.381
G	0.38~0.76	0.015~0.030
H	8.31~8.51	0.327~0.335
I	4.78~5.28	0.188~0.208
J	4.72~5.28	0.186~0.208
K	0.15 Max.	0.006 Max.
L	2.06~2.21	0.081~0.087
M	1.73~2.24	0.068~0.088
N	4.75 Min.	0.187 Min.

技术参数
Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC–11GHz	Frequency Range	DC–11GHz
电压驻波比 (f=GHz)	≤ 1.1+0.02x f	VSWR(f=GHz)	≤ 1.1+0.02x f
插入损耗 (f=GHz)	≤ 0.1x √ f dB	Insertion loss(f=GHz)	≤ 0.1x √ f dB
测试电压	1500V rms	Test Voltage	1500V rms
工作电压	500V rms	Work Voltage	500V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 1.5 mΩ Max; 外导体 : 1.0 mΩ Max.	Contact Resistance	Center Contact: 1.5 mΩ Max; Outer Contact: 1.0 mΩ Max.
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	1.7Nm Max; 建议 : 0.46~0.69Nm	Coupling Torque	1.7Nm Max; Rec. 0.46~0.69Nm
连接螺母保持力	≥ 445N	Coupling Nut Retention	≥ 445N
内导体保持力	轴向≥ 27N	Center Contact Captivation	Axial ≥ 27N

材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀金 / 镀镍 / 镀三元合金	Body	Brass	Gold Plated/Nickel Plated/ White Bronze Plated
连接螺母	黄铜	镀镍 / 镀三元合金	Coupling Nut	Brass	Nickel Plated/White Bronze Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/ Phosphor Bronze/Beryllium Copper	Gold Plated/Silver Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍 / 镀三元合金	Crimp Ferrule	Copper/Brass	Gold Plated/Nickel Plated / White Bronze Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	

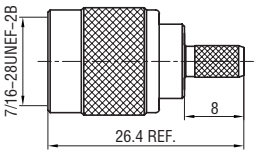
环境特性	参数	Environmental Data	Data
温度范围	–45℃ ~+125℃	Temperature Range	–45℃ ~+125℃
耐腐蚀性（盐雾）	MIL–STD–202 method 101. Condition B	Corrosion (Salt Spray)	MIL–STD–202 method 101. Condition B
振动	MIL–STD–202 method 204. Condition B	Vibration	MIL–STD–202 method 204. Condition B
冲击	MIL–STD–202 method 213. Condition G	Shock	MIL–STD–202 method 213. Condition G
热冲击	MIL–STD–202 method 107. Condition B	Thermal Shock	MIL–STD–202 method 107. Condition B
抗潮湿性	MIL–STD–202 method 106	Moisture Resistance	MIL–STD–202 method 106

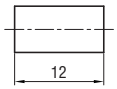
注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

TNC

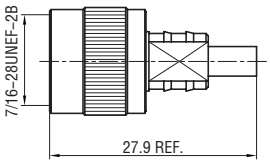
Straight Crimp Plug

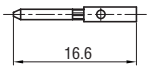




Part Number	50TCA11S-A61-004
Cable Group	LMR195
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

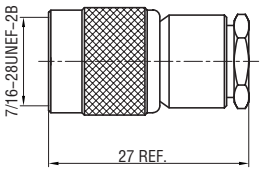
Straight Crimp Plug





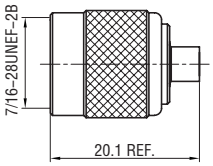
Part Number	50TCA15S-A115
Cable Group	RG58/U
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

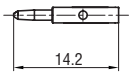
Straight Clamp Plug



Part Number	50TCA14S-A09
Cable Group	RG223/U
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

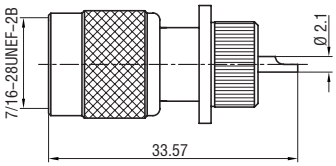
Straight Solder Plug

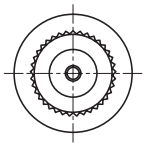




Part Number	50TCA15S-S02
Cable Group	RG402, .141"
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

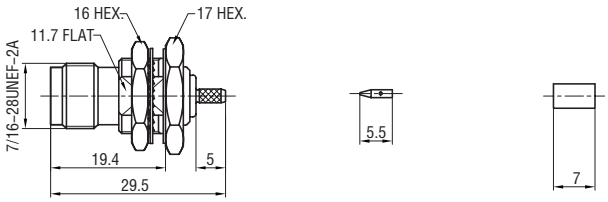
Straight Press-In Mount Plug





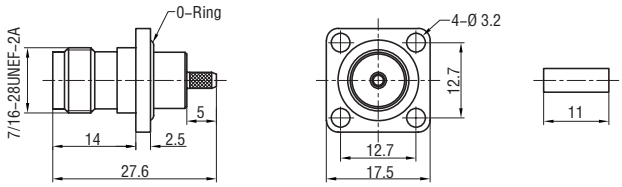
Part Number	50TCA05S-P00
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

Straight Crimp Jack



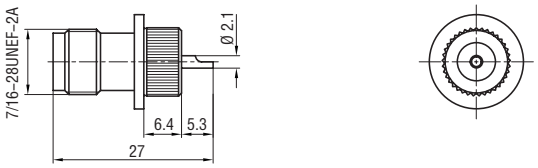
Part Number	50TCB32S-A04
Cable Group	RG316/U
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Crimp Jack



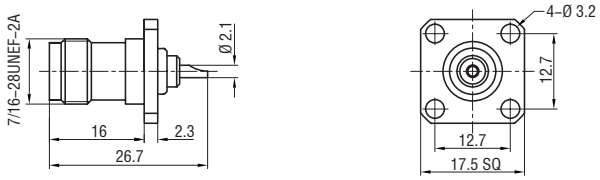
Part Number	50TCB41S-A02
Cable Group	RG174, RG316/U
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

Straight Press-In Mount Jack



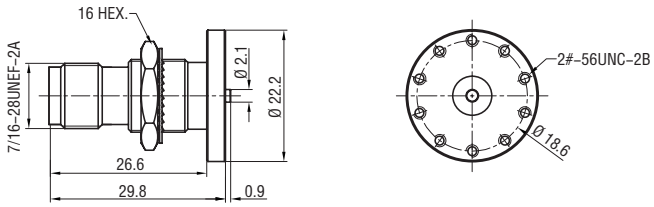
Part Number	50TCB05S-P00
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Panel Mount Jack



Part Number	50TCB55S-P01
Cable Group	-
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

Straight Panel Mount Jack



Part Number	50TCB55S-P02
Cable Group	-
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

BNC

产品特点

- 频率可达到 4 GHz;
- VSWR (直式): ≤ 1.20;
- 卡扣式连接结构 ;
- 50Ω 和 75Ω 系列界面完全兼容。

Product Features

- Frequency range optimum up to 4 GHz;
- VSWR (straight connector): ≤ 1.20;
- Bayonet coupling mechanism;
- Intermatedable with 50Ω and 75Ω , to ensure nondestructive mating.

应用范围

- 基站;
- 天线;
- 汽车电子;
- 医疗设备;
- 测试仪器;
- 视频通讯;
- 军用无线电通信;
- 航天航空;
- 网络分析仪;
- 电信系统。

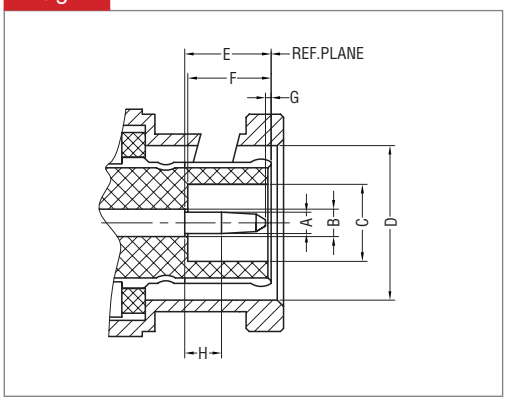
Application

- Base Station;
- Antenna;
- Automotive;
- Medical Equipment;
- Instrumentation;
- Video communication;
- Military radio-telecommunication;
- Avionics/ Aeronautics;
- Network Analyzer;
- Telecom.

介面尺寸

标准：IEC60169-8 / MIL-STD-348A

Plug

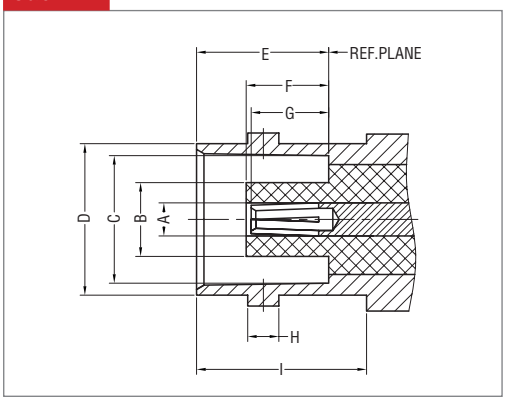


NO.	DIMENSION	
	mm	inch
A	1.32~1.37	0.052~0.054
B	2.06~2.21	0.081~0.087
C	4.83 Min.	0.190 Min.
D	9.78~9.91	0.385~0.390
E	5.33~5.84	0.210~0.230
F	5.28~5.79	0.208~0.228
G	0.15 Min.	0.006 Min.
H	1.98 Min.	0.078 Min.

Interface Dimension

Standard：IEC60169-8 / MIL-STD-348A

Jack



NO.	DIMENSION	
	mm	inch
A	2.06~2.21	0.081~0.087
B	4.72 Max.	0.186 Max.
C	8.10~8.15	0.319~0.321
D	9.60~9.70	0.378~0.382
E	8.31~8.51	0.327~0.335
F	4.78~5.28	0.188~0.208
G	4.72~5.23	0.186~0.206
H	1.91~2.06	0.075~0.081
I	10.52 Min.	0.414 Min.

技术参数

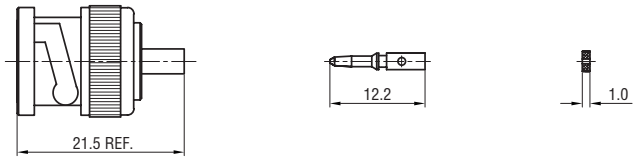
Technical Specification

电气性能	参数		Electrical Data	Data	
阻抗	50 Ω		Impedance	50 Ω	
频段范围	DC–4GHz		Frequency Range	DC–4GHz	
电压驻波比 (f=GHz)	≤ 1.1+0.02x f		VSWR(f=GHz)	≤ 1.1+0.02x f	
插入损耗 (f=GHz)	≤ 0.1x √ f dB		Insertion loss(f=GHz)	≤ 0.1x √ f dB	
测试电压	1500V rms		Test Voltage	1500V rms	
工作电压	400V rms		Work Voltage	400V rms	
绝缘阻抗	≥ 5000MΩ		Insulation Resistance	≥ 5000MΩ	
接触电阻	内导体 : 1.5 mΩ Max; 外导体 : 1.0 mΩ Max.		Contact Resistance	Center Contact: 1.5 mΩ Max; Outer Contact: 1.0 mΩ Max.	
机械性能	**参数**		**Mechanical Data**	**Data**	
插拔次数	≥ 500		Mating Cycles	≥ 500	
插入力	≤ 20N		Engagement Force	≤ 20N	
连接螺母保持力	≥ 445N		Coupling Nut Retention	≥ 445N	
内导体保持力	轴向≥ 27N		Center Contact Captivation	Axial ≥ 27N	
材料特性	**参数**		**Material Data**	**Data**	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀金 / 镀镍	Body	Brass	Gold Plated/ Nickel Plated
连接螺母	黄铜	镀镍	Coupling Nut	Brass	Nickel Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/ Phosphor Bronze/Beryllium Copper	Gold Plated/ Silver Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	
环境特性	**参数**		**Environmental Data**	**Data**	
温度范围	–45℃ ~+125℃		Temperature Range	–45℃ ~+125℃	
耐腐蚀性（盐雾）	MIL–STD–202 method 101. Condition B		Corrosion (Salt Spray)	MIL–STD–202 method 101. Condition B	
振动	MIL–STD–202 method 204. Condition B		Vibration	MIL–STD–202 method 204. Condition B	
冲击	MIL–STD–202 method 213. Condition G		Shock	MIL–STD–202 method 213. Condition G	
热冲击	MIL–STD–202 method 107. Condition B		Thermal Shock	MIL–STD–202 method 107. Condition B	
抗潮湿性	MIL–STD–202 method 106		Moisture Resistance	MIL–STD–202 method 106	

注：这些特性具有典型代表性，不适用于所有连接器。

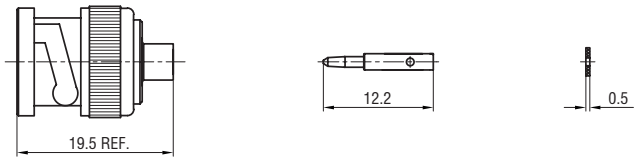
Note: These characteristics are typical and may not apply to all connectors.

Straight Solder Plug



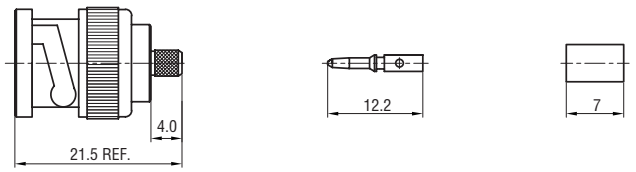
Part Number	50BNA15S-S01
Cable Group	RG405, .086"
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Solder Plug



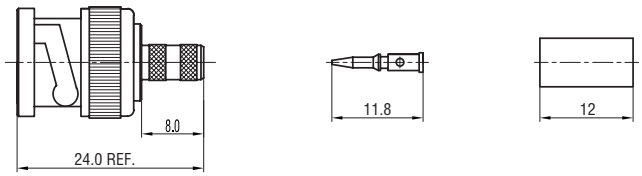
Part Number	50BNA15S-S02
Cable Group	RG402, .141"
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug



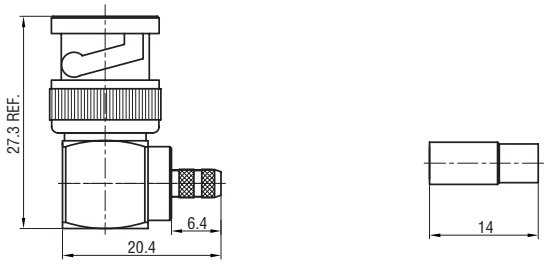
Part Number	50BNA11S-A02-005
Cable Group	1.5DS-QEHV
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug



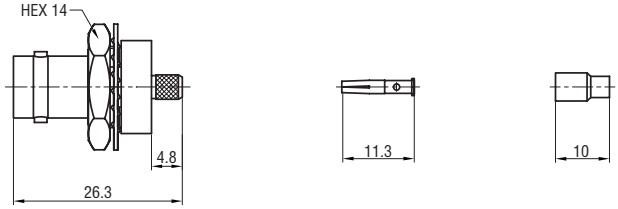
Part Number	50BNA11S-A41-002
Cable Group	RG58/U
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Right Angle Crimp Plug



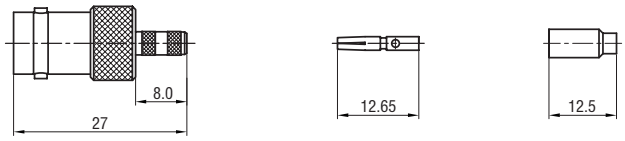
Part Number	50BNA11R-A88
Cable Group	RG223/U
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Crimp Jack



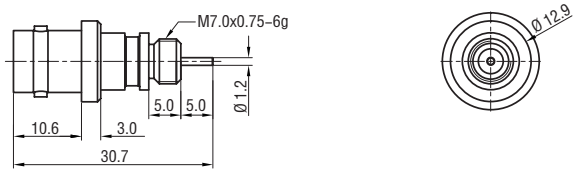
Part Number	50BNB11S-A02-004
Cable Group	1.5D-2V
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

Straight Crimp Jack



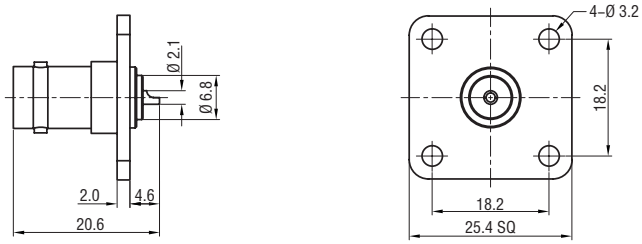
Part Number	50BNB11S-A02-008
Cable Group	RG174, RG316/U
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

Straight Bulkhead Mount Jack



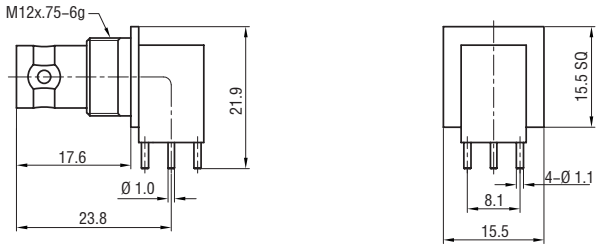
Part Number	50BNB45S-P19
Cable Group	-
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

Straight Panel Mount Jack



Part Number	50BNB55S-P01-002
Cable Group	-
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Right Angle PCB Mount Jack



Part Number	50BNB25R-P00
Cable Group	-
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

BMA

产品特点

- 频率可达到 18 GHz；
- 驻波比（直式）：≤ 1.10；
- 盲插系列连接器；
- 具有轴向或径向偏差的固定及浮动连接方式；
- 高可靠性且易于安装 。

Product Features

- Frequency range up to 18 GHz;
- VSWR (straight connector): ≤ 1.10 ;
- Blind mate connector;
- Floating connections with certain axial or radial misalignment;
- High reliability and ease of assembly;

应用范围

- 基站；
- 电缆组件；
- 电子元件；
- 测试仪器；
- 无线通信；
- 计算机 / 局域网；
- 视频系统；
- 电信系统。

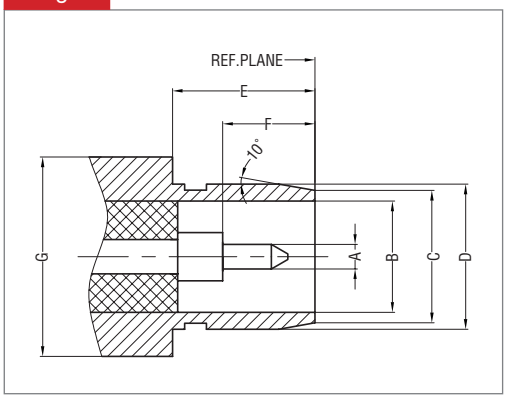
Application

- Base Station；
- Cable Assemblies；
- Components；
- Instrumentation；
- Wireless Communication；
- PC/LAN；
- Video System；
- Telecom.

介面尺寸

标准：IEC61169-33 / MIL-STD-348A

Plug

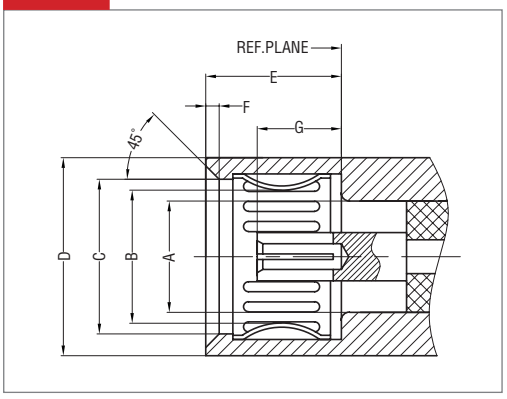


NO.	DIMENSION	
	mm	inch
A	0.90~0.94	0.0355~0.0370
B	4.09 Nom.	0.161 Nom.
C	4.88 Nom.	0.192 Nom.
D	5.30~5.35	0.209~0.211
E	5.03 Min.	0.198 Min.
F	3.25 Min.	0.128 Min.
G	7.62 Nom.	0.300 Nom.

Interface Dimension

Standard：IEC61169-33 / MIL-STD-348A

Jack



NO.	DIMENSION	
	mm	inch
A	4.09 Nom.	0.161 Nom.
B	5.08 Max.	0.200 Nom.
C	5.71 Min.	0.225 Min.
D	7.37 Min.	0.290 Min.
E	4.95 Max.	0.195 Max.
F	0.38~0.51	0.015~0.020
G	3.22 Max.	0.127 Max.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC–18GHz	Frequency Range	DC–18GHz
电压驻波比 (f=GHz)	≤ 1.1+0.02x f	VSWR(f=GHz)	≤ 1.1+0.02x f
插入损耗 (f=GHz)	≤ 0.04x √ f dB	Insertion loss(f=GHz)	≤ 0.04x √ f dB
测试电压	750V rms	Test Voltage	750V rms
工作电压	250V rms	Work Voltage	250V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 2.0 mΩ Max; 外导体 : 2.0 mΩ Max.	Contact Resistance	Center Contact: 2.0 mΩ Max; Outer Contact: 2.0 mΩ Max.

机械性能	参数	Mechanical Data	Data
插拔次数	≥ 500	Mating Cycles	≥ 500
啮合力	≤ 13.3N	Engagement Force	≤ 13.3N
分离力	≥ 2N	Disengagement Force	≥ 2N
内导体保持力	轴向≥ 27N	Center Contact Captivation	Axial ≥ 27N

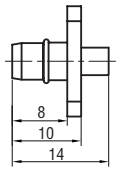
材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 不锈钢	镀金 / 镀镍 / 镀三元合金 / 钝化	Body	Brass/Stainless Steel	Gold Plated/Nickel Plated/White Bronze Plated/Passivation
弹片	铍铜	镀金	Spring	Beryllium Copper	Gold Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/Beryllium Copper	Gold Plated/ Silver Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	

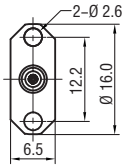
环境特性	参数	Environmental Data	Data
温度范围	–45℃ ~+125℃	Temperature Range	–45℃ ~+125℃
耐腐蚀性（盐雾）	MIL–STD–202 method 101. Condition B	Corrosion (Salt Spray)	MIL–STD–202 method 101. Condition B
振动	MIL–STD–202 method 204. Condition D	Vibration	MIL–STD–202 method 204. Condition D
冲击	MIL–STD–202 method 213. Condition I	Shock	MIL–STD–202 method 213. Condition I
热冲击	MIL–STD–202 method 107. Condition B	Thermal Shock	MIL–STD–202 method 107. Condition B
抗潮湿性	MIL–STD–202 method 106	Moisture Resistance	MIL–STD–202 method 106

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

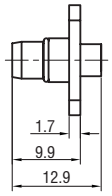
Straight Solder Plug

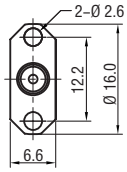




Part Number	50BMA55S-S01-002
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

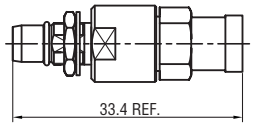
Straight Solder Plug

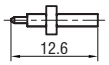




Part Number	50BMA55S-S02
Cable Group	RG402, .141"
Body	Brass, Stainless Steel Gold Plating
Center Contact	Brass, Gold Plating

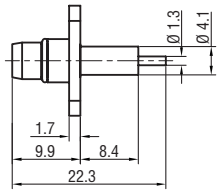
Straight Solder Plug

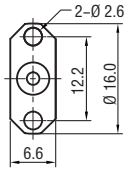




Part Number	50BMA13S-A233
Cable Group	RG233
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

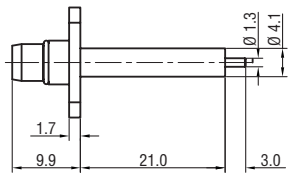
Straight Panel Mount Plug

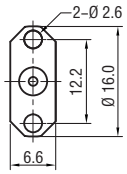




Part Number	50BMA55S-P02
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

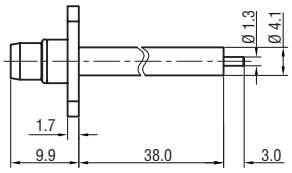
Straight Panel Mount Plug

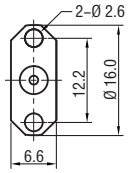




Part Number	50BMA55S-P03
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

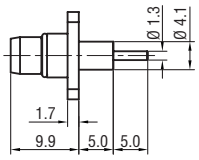
Straight Panel Mount Plug

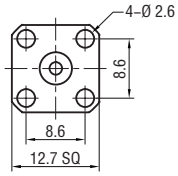




Part Number	50BMA55S-P04
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

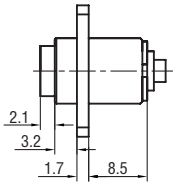
Straight Panel Mount Plug

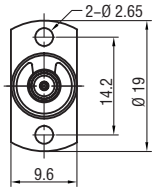




Part Number	50BMA55S-P05
Cable Group	–
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

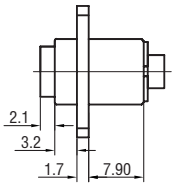
Straight Solder Jack

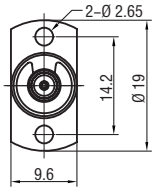




Part Number	50BMB55S-S01
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

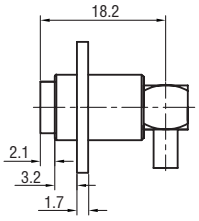
Straight Solder Jack

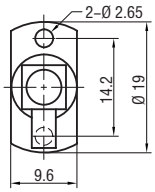




Part Number	50BMB55S-S02
Cable Group	RG402, .141"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

Right Angle Solder Jack





Part Number	50BMB55R-S01
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

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产品特点

- 频率可达到 3 GHz；
- 驻波比（直式）：≤ 1.06 @1GHz；
- 阻抗：75 Ω；
- 螺纹锁定连接系统；
- 多种 PCB 安装方式：表面安装、边缘安装、弯式及直式；
- 提供 0.64~1.13 mm 的中心导体，应用广泛。

Product Features

- Frequency range up to 3 GHz;
- VSWR (straight connector): ≤ 1.06 @1GHz ;
- Impedance: 75 Ω ;
- Screw-lock coupling system;
- Multiple PCB mount packages: surface mount, edge mount, right angle and straight;
- Accommodates 0.64~1.13 mm center conductor sizes.

应用范围

- 电缆组件；
- 有线电视；
- 计算机集成制造系统；
- 高速线缆调制解调器；
- 数字视频变换盒。

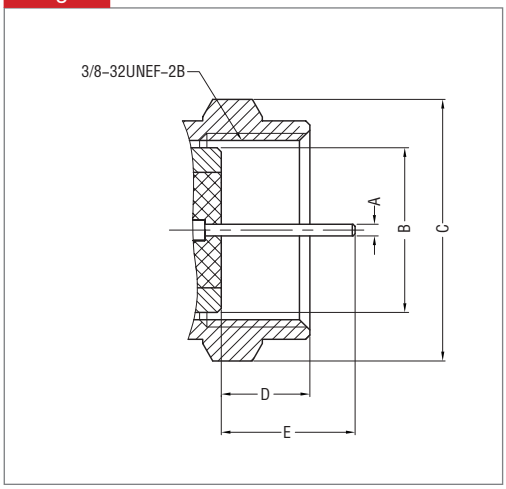
Application

- Cable Assemblies；
- CATV；
- CIMs；
- High Speed Cable Modems；
- Set Top Boxes.

介面尺寸

标准：IEC61169-24

Plug

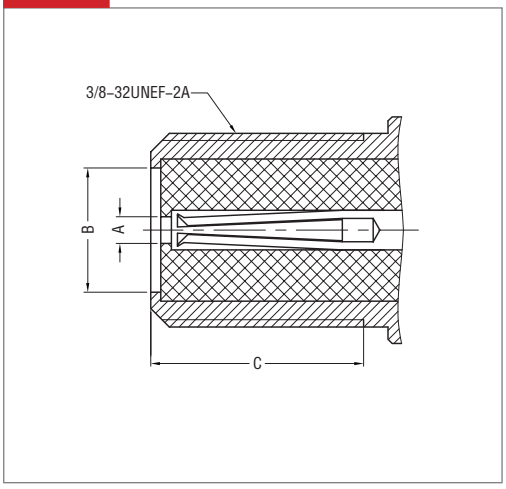


NO.	DIMENSION	
	mm	inch
A	0.64~1.13	0.025~0.044
B	7.88 Min.	0.310 Min.
C	16.61 Max.	0.654 Max.
D	4.00~7.29	0.157~0.287
E	6.35~8.63	0.250~0.340

Interface Dimension

Standard：IEC61169-24

Jack



NO.	DIMENSION	
	mm	inch
A	1.20~1.50	0.047~0.059
B	3.90~7.40	0.154~0.291
C	7.50 Min.	0.295 Min.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	75 Ω	Impedance	75 Ω
频段范围	DC-3GHz	Frequency Range	DC-3GHz
电压驻波比	≤ 1.06@DC-1GHz ≤ 1.12@ 1-2GHz ≤ 1.22@ 2-3GHz	VSWR	≤ 1.06@DC-1GHz ≤ 1.12@ 1-2GHz ≤ 1.22@ 2-3GHz
插入损耗	≤ 0.1dB@DC-1GHz ≤ 0.2dB@ 1-2GHz ≤ 0.3dB@ 2-3GHz	Insertion loss	≤ 0.1dB@DC-1GHz ≤ 0.2dB@ 1-2GHz ≤ 0.3dB@ 2-3GHz
测试电压	750V rms	Test Voltage	750V rms
工作电压	250V rms	Work Voltage	250V rms
绝缘阻抗	≥ 1000MΩ	Insulation Resistance	≥ 1000MΩ
接触电阻	内导体：5.0 mΩ Max； 外导体：2.5 mΩ Max.	Contact Resistance	Center Contact: 5.0 mΩ Max; Outer Contact: 2.5 mΩ Max.
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	2.8Nm Max； 建议：0.46~0.69Nm	Coupling Torque	2.8Nm Max; Rec. 0.46~0.69Nm
连接螺母保持力	≥ 300N	Coupling Nut Retention	≥ 300N
内导体保持力	轴向≥ 20N	Center Contact Captivation	Axial ≥ 20N

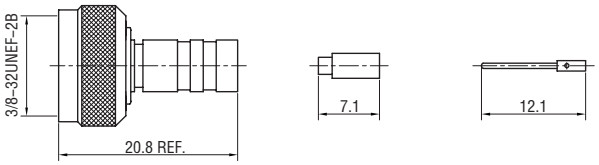
材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 锌合金	镀金 / 镀镍 / 镀锡	Body	Brass/ Zinc Die Cast	Gold Plated/Nickel Plated/Tin Plated
连接螺母	黄铜	镀镍	Coupling Nut	Brass	Nickel Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银 / 镀锡	Center Contact	Brass/Phosphor Bronze/Beryllium Copper	Gold Plated/Silver Plated/Tin Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

环境特性	参数	Environmental Data	Data
温度范围	-45℃ ~+125℃	Temperature Range	-45℃ ~+125℃
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B	Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B
振动	MIL-STD-202 method 204. Condition B	Vibration	MIL-STD-202 method 204. Condition B
冲击	MIL-STD-202 method 213. Condition G	Shock	MIL-STD-202 method 213. Condition G
热冲击	MIL-STD-202 method 107. Condition B	Thermal Shock	MIL-STD-202 method 107. Condition B
抗潮湿性	MIL-STD-202 method 106	Moisture Resistance	MIL-STD-202 method 106

注：这些特性具有典型代表性，不适用于所有连接器。

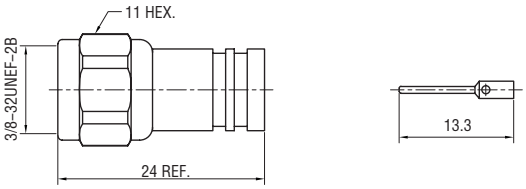
Note: These characteristics are typical and may not apply to all connectors.

Straight Crimp Plug



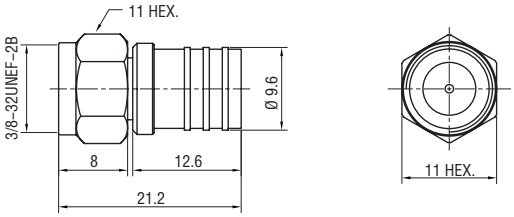
Part Number	75FCA10S–A03
Cable Group	RG179/U
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug



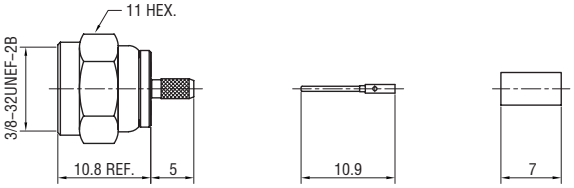
Part Number	75FCA10S–A10
Cable Group	RG59/U
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug



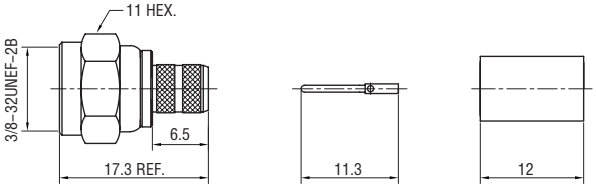
Part Number	75FCA10S–A13–003
Cable Group	RG6/U
Body	Brass, Nickel Plating
Center Contact	–

Straight Crimp Plug



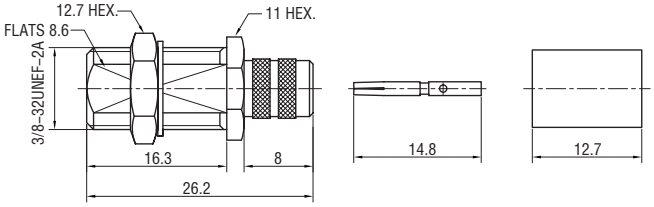
Part Number	75FCA11S–A01
Cable Group	RG179/U
Body	Brass, Tin Plating
Center Contact	Brass, Tin Plating

Straight Crimp Plug



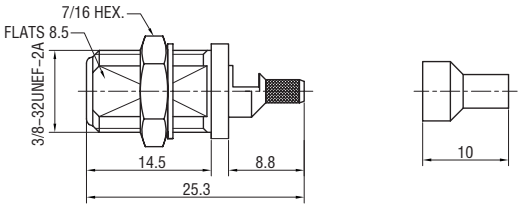
Part Number	75FCA11S–A10–001
Cable Group	RG179/U
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

Straight Crimp Jack



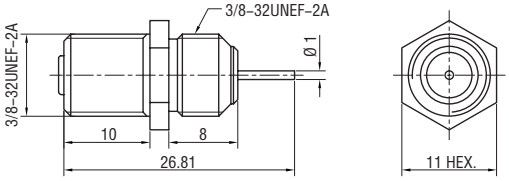
Part Number	75FCB10S–A13–002
Cable Group	RG6/U
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Crimp Jack



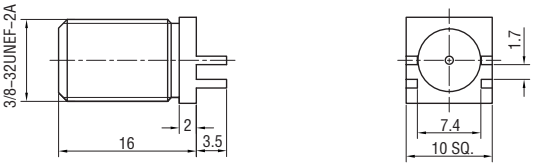
Part Number	75FCB15S–A01–004
Cable Group	RG179/U
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Gold Plating

Straight Bulkhead Mount Jack



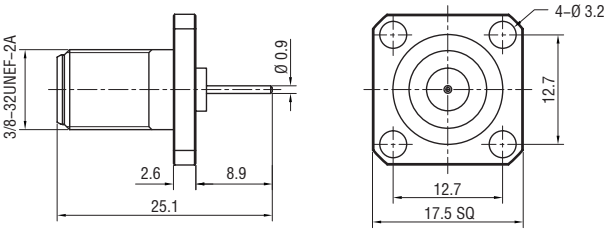
Part Number	75FCB05S–P02
Cable Group	–
Body	Brass, Nickel Plating
Center Contact	Phosphor Bronze, Tin Plating

Straight PCB Mount Jack



Part Number	75FCB05S–P05
Cable Group	–
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Panel Mount Jack



Part Number	75FCB55S–P01
Cable Group	–
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

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产品特点

- 频率可达到 6GHz;
- 驻波比（直式）：≤ 1.30；
- 保证中心导体定位；
- 温度范围从 -40℃至 +105℃；
- 初级和二级锁定系统保证高组装安全

Product Features

- Frequency range up to 6GHz;
- VSWR (straight connector): ≤ 1.30 ;
- Guaranteed center contact positioning;
- Temperature range from-40 ℃ to +105 ℃ ;
- Primary and secondary locking systems lead to high assembling security

应用范围

- GPS 天线；
- 模拟 / 数字无线电;
- 电视 / 视频显示；
- 导航系统;
- 扩音器；
- 引擎管理系统。

Application

- GPS Antenna;
- Analog / Digital Radio;
- TV/ Video-displays;
- Navigation System;
- Amplifier;
- Engine Management System.

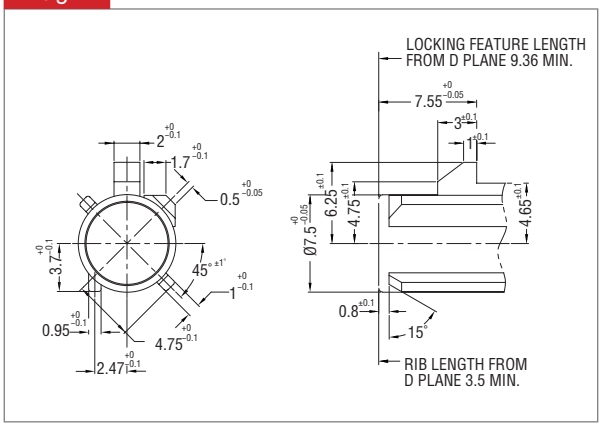
介面尺寸

标准：DIN 72954-1

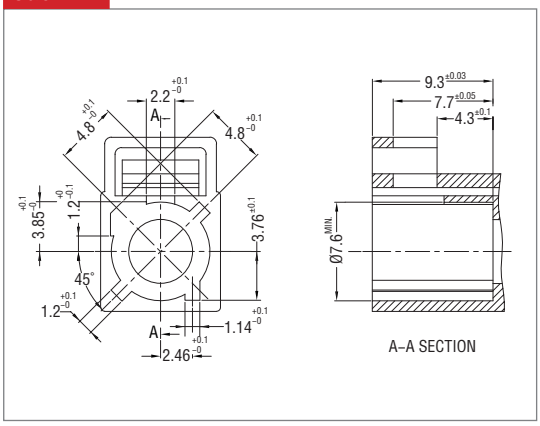
Interface Dimension

Standard：DIN 72954-1

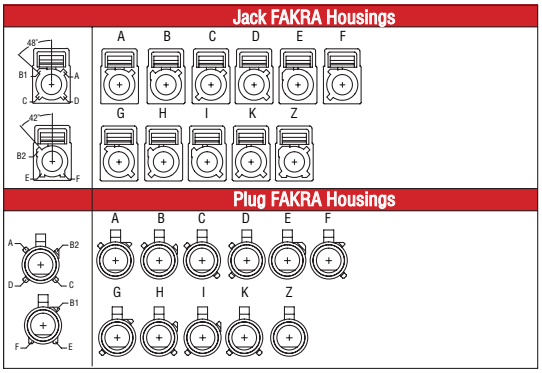
Plug



Jack



Mechanical and Color Coding		
Coding	Rib Combination	Color
A	A-B1	Deep Black
B	A-B2	Signal White
C	A-C	Signal Blue
D	A-D	Bordeaux Violet
E	B1-B2	Leaf Green
F	B1-C	Brown
G	B1-D	Blue Grey
H	B2-C	Heather Violet
I	B2-D	Beige
K	C-D	Curry Yellow
Z	Neutral Coding	Water Blue



技术参数

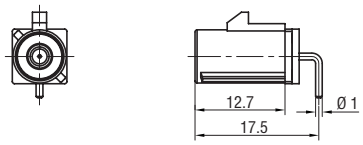
Technical Specification

电气性能	参数		Electrical Data	Data	
阻抗	50 Ω		Impedance	50 Ω	
频段范围	DC–6 GHz		Frequency Range	DC–6 GHz	
电压驻波比	≤ 1.30		VSWR	≤ 1.30	
插入损耗 (f=GHz)	≤ 0.1x √ f dB		Insertion loss(f=GHz)	≤ 0.1x √ f dB	
测试电压	750V rms		Test Voltage	750V rms	
工作电压	335V rms		Work Voltage	335V rms	
绝缘阻抗	≥ 1000MΩ		Insulation Resistance	≥ 1000MΩ	
接触电阻	内导体 : 5.0 mΩ Max; 外导体 : 2.5 mΩ Max.		Contact Resistance	Center Contact: 5.0 mΩ Max; Outer Contact: 2.5 mΩ Max.	
接触电流	1 A DC		Contact Current	1 A DC	
机械性能	**参数**		**Mechanical Data**	**Data**	
插拔次数	≥ 25		Mating Cycles	≥ 25	
啮合力	≤ 25N		Engagement Force	≤ 25N	
分离力	≥ 2N		Disengagement Force	≥ 2N	
机械拉力测试	≥ 110N		Mechanical pull test	≥ 110N	
线缆保持力	≥ 80N		Cable retention force	≥ 80N	
材料特性	**参数**		**Material Data**	**Data**	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 锌合金 / 不锈钢	镀金 / 镀镍 / 镀锡 / 钝化	Body	Brass/Zinc Die Cast/Stainless Steel	Gold Plated/ Nickel Plated/ Tin Plated/ Passivation
内导体	黄铜 / 磷铜 / 铍铜	镀金	Center Contact	Brass/Phosphor Bronze/Beryllium Copper	Gold Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
塑胶外壳	PBT,PA PPE,POM		Plastic Housings	PBT,PA PPE,POM	
锁扣	PBT,PA ,PPE		Secondary Lock	PBT,PA ,PPE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	
环境特性	**参数**		**Environmental Data**	**Data**	
温度范围	–40℃ ~+105℃		Temperature Range	–40℃ ~+105℃	
振动	DIN 72594–2 Clause 6,1		Vibration	DIN 72594–2 Clause 6,1	
热冲击	DIN 72594–2 Clause 6,2		Thermal Shock	DIN 72594–2 Clause 6,2	
湿热	DIN 72594–2 Clause 6,3		Damp heat	DIN 72594–2 Clause 6,3	
干热	DIN 72594–2 Clause 6,5		Dry heat	DIN 72594–2 Clause 6,5	
抗潮湿性	MIL–STD–202 method 106		Moisture Resistance	MIL–STD–202 method 106	

注：这些特性具有典型代表性，不适用于所有连接器。

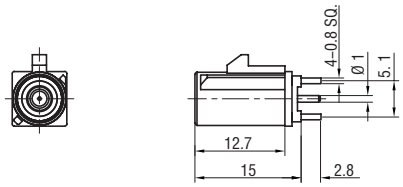
Note: These characteristics are typical and may not apply to all connectors.

Straight Panel Mount



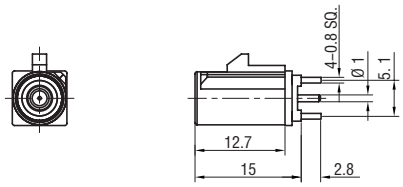
Part Number	50FKA15S-P01
Cable Group	–
Body	Brass, Tin Plating
Center Contact	Brass, Gold Plating

Straight PCB Mount Plug



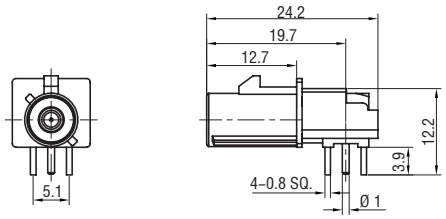
Part Number	50FKA25S-P01
Cable Group	–
Body	Brass, Tin Plating
Center Contact	Brass, Gold Plating

Straight PCB Mount Plug



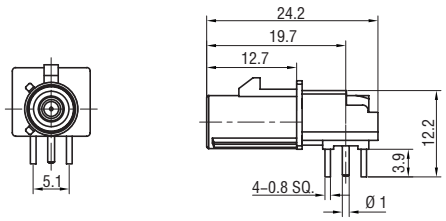
Part Number	50FKA25S-P02
Cable Group	–
Body	Brass, Tin Plating
Center Contact	Brass, Gold Plating

Right Angle PCB Mount Plug



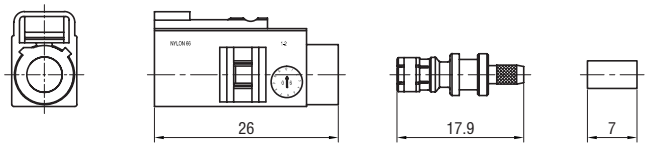
Part Number	50FKA25R-P01
Cable Group	–
Body	Brass, Tin Plating
Center Contact	Brass, Gold Plating

Right Angle PCB Mount Plug



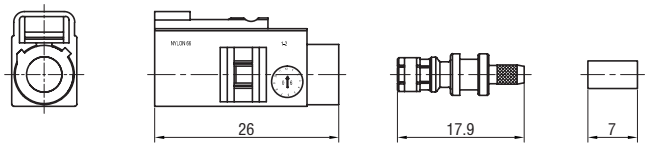
Part Number	50FKA25R-P02
Cable Group	–
Body	Brass, Tin Plating
Center Contact	Brass, Gold Plating

Straight Crimp Jack



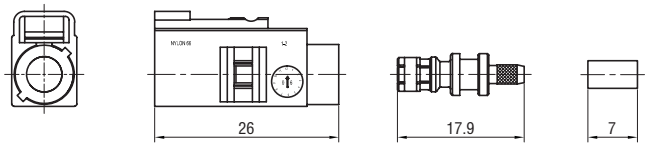
Part Number	50FKB1AS-A02-004
Cable Group	RG174, RG316/U
Body	Zinc Die Cast,Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Crimp Jack



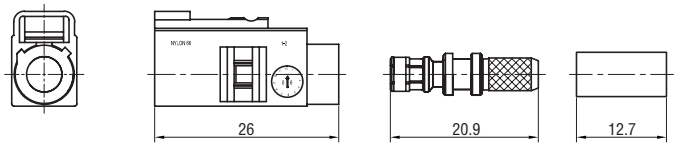
Part Number	50FKB1BS-A02-004
Cable Group	RG174, RG316/U
Body	Zinc Die Cast,Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Crimp Jack



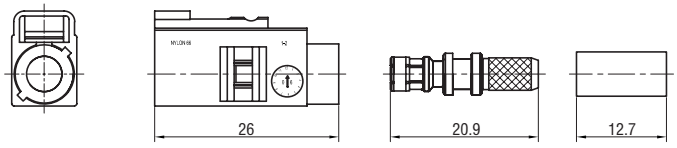
Part Number	50FKB1CS-A02-004
Cable Group	RG174, RG316/U
Body	Zinc Die Cast,Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Crimp Jack



Part Number	50FKB1BS-A41-001
Cable Group	RG58/U
Body	Zinc Die Cast,Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Crimp Jack



Part Number	50FKB1CS-A41-001
Cable Group	RG58/U
Body	Zinc Die Cast,Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

N

产品特点

- 频率可达 11GHz；
- VSWR(直式): ≤ 1.10;
- 螺纹锁定式连接系统；
- 高防护等级，防风雨；
- 优质的三阶互调和回损。

Product Features

- Frequency range up to 11GHz;
- VSWR(straight connector): ≤ 1.10;
- Screw lock coupling system;
- High degree of protection, weatherproof;
- Excellent intermodulation and return loss.

应用范围

- 基站；
- 电缆组件；
- 电子元件；
- 天线；
- 测试仪器；
- 雷达；
- 民用和军用无线电通信设备；
- 工业应用；
- 电信系统。

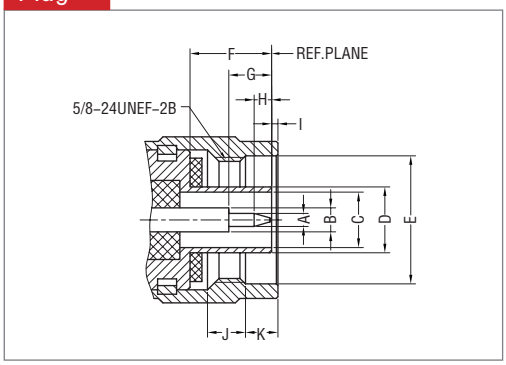
Application

- Base Station；
- Cable Assemblies；
- Components；
- Antennas；
- Instrumentation ；
- Radar;
- Civil and military radio-telecommunication equipment;
- Industrial application;
- Telecom.

介面尺寸

标准：IEC 61169-16 / MIL-STD-348A

Plug

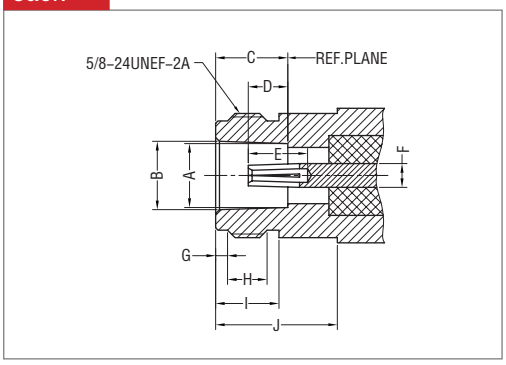


NO.	DIMENSION	
	mm	inch
A	1.600~1.676	0.063~0.066
B	3.04 Nom.	0.120 Nom.
C	7.00 Nom.	0.2756 Nom.
D	8.027 Max.	0.316 Max.
E	16.00 Min.	0.630 Min.
F	9.25 Min.	0.364 Min.
G	5.33 Min.	0.210 Min.
H	2.79~3.56	0.110~0.140
I	0.41~1.52	0.016~0.060
J	4.50 Min.	0.177 Min.
K	4.013~4.267	0.158~0.168

Interface Dimension

Standard：IEC 61169-16 / MIL-STD-348A

Jack



NO.	DIMENSION	
	mm	inch
A	8.027~8.130	0.316~0.320
B	8.53~8.74	0.336~0.344
C	9.05~9.19	0.356~0.362
D	4.75~5.26	0.187~0.207
E	5.33 Min.	0.210 Min.
F	3.04 Nom.	0.120 Nom.
G	1.19~1.96	0.047~0.077
H	4.37 Min.	0.172 Min.
I	6.76 Min.	0.266 Min.
J	10.72 Min.	0.422 Min.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC–11GHz	Frequency Range	DC–11GHz
电压驻波比	≤ 1.10	VSWR	≤ 1.10
插入损耗 (f=GHz)	≤ 0.05x √f dB	Insertion loss(f=GHz)	≤ 0.05x √f dB
测试电压	2500V rms	Test Voltage	2500V rms
工作电压	1000V rms	Work Voltage	1000V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 1.5 mΩ Max; 外导体 : 1.0 mΩ Max.	Contact Resistance	Center Contact: 1.5 mΩ Max; Outer Contact: 1.0 mΩ Max.
射频泄漏	≥ 90 dB	Rf–Leakage	≥ 90 dB
三阶互调	≤ –155 dBc@2x20W	PIM 3rd	≤ –155 dBc@2x20W
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	1.7Nm Max; 建议：0.7~1.1Nm	Coupling Torque	1.7Nm Max; Rec. 0.7~1.1Nm
连接螺母保持力	≥ 450N	Coupling Nut Retention	≥ 450N
内导体保持力	轴向≥ 28N 径向≥ 0.1Nm	Center Contact Captivation	axial ≥ 28N radial ≥ 0.1Nm

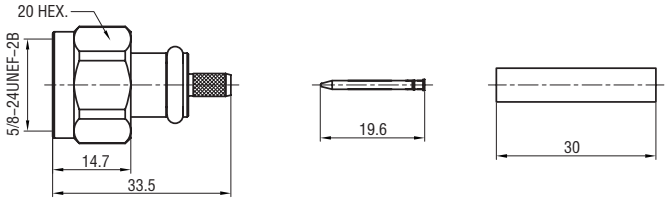
材料特性	参数		Material Data	Data	
外导体	黄铜	镀银 / 镀镍 / 镀三元合金	Body	Brass	Silver Plated/Nickel Plated/ White Bronze Plated
连接螺母	黄铜	镀镍 / 镀三元合金	Coupling Nut	Brass	Nickel Plated/White Bronze Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/Beryllium Copper	Gold Plated/ Silver Plated
压接套管	紫铜 / 黄铜	镀银 / 镀镍 / 镀三元合金	Crimp Ferrule	Copper/Brass	Silver Plated/Nickel Plated/ White Bronze Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	

环境特性	参数	Environmental Data	Data
温度范围	–55℃ ~+155℃	Temperature Range	–55℃ ~+155℃
耐腐蚀性（盐雾）	MIL–STD–202 method 101. Condition B	Corrosion (Salt Spray)	MIL–STD–202 method 101. Condition B
振动	MIL–STD–202 method 204. Condition B	Vibration	MIL–STD–202 method 204. Condition B
冲击	MIL–STD–202 method 213. Condition G	Shock	MIL–STD–202 method 213. Condition G
热冲击	MIL–STD–202 method 107. Condition B	Thermal Shock	MIL–STD–202 method 107. Condition B

注：这些特性具有典型代表性，不适用于所有连接器。

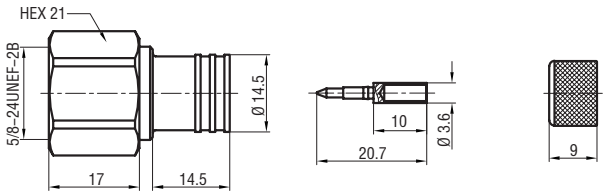
Note: These characteristics are typical and may not apply to all connectors.

Straight Crimp Plug



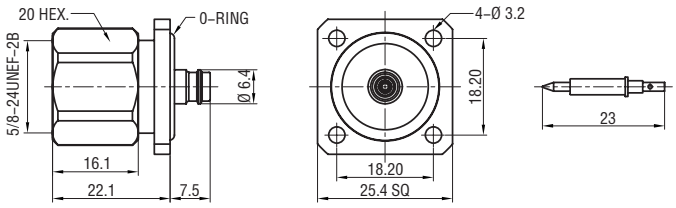
Part Number	50NCA11S-A16-006
Cable Group	RG142/U
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Crimp Plug



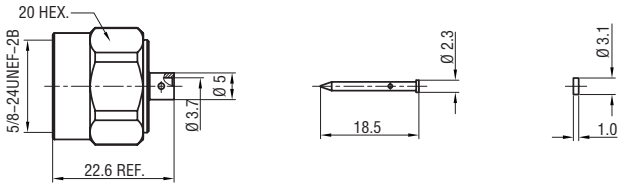
Part Number	50NCA11S-A113
Cable Group	8D
Body	Brass,Nickel Plating
Center Contact	Brass, Gold Plating

Straight Solder Plug



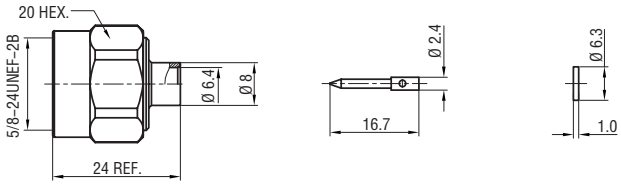
Part Number	50NCA15S-S01
Cable Group	RG405, .086"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



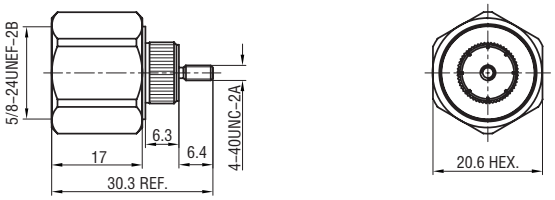
Part Number	50NCA15S-S02-020
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



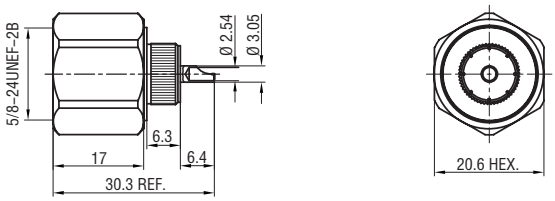
Part Number	50NCA15S-S03-003
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Press-In Plug



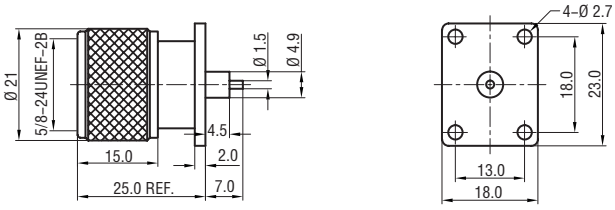
Part Number	50NCA05S-P04-002
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

Straight Press-In Plug



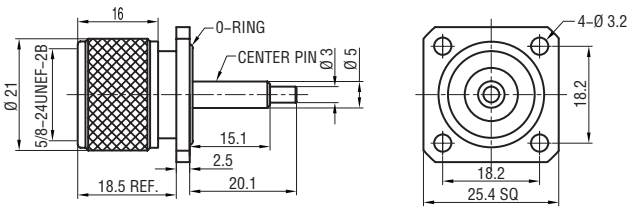
Part Number	50NCA05S-P04-005
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

Straight Panel Mount Plug



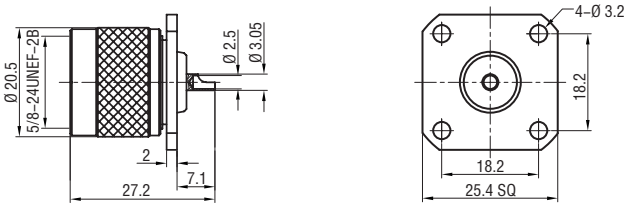
Part Number	50NCA55S-P01
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

Straight Panel Mount Plug



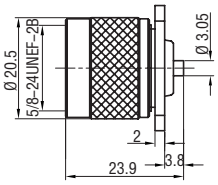
Part Number	50NCA55S-P02
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

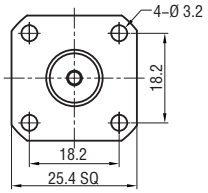
Straight Panel Mount Plug



Part Number	50NCA55S-P04
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

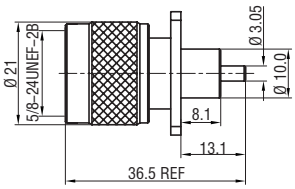
Straight Panel Mount Plug

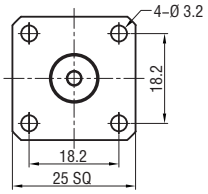




Part Number	50NCA55S-P05
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

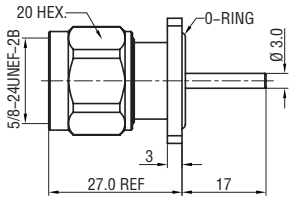
Straight Panel Mount Plug

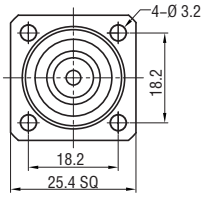




Part Number	50NCA55S-P09
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

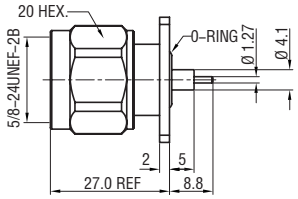
Straight Panel Mount Plug

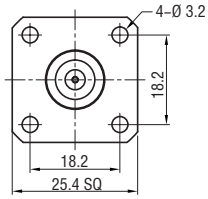




Part Number	50NCA55S-P08
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

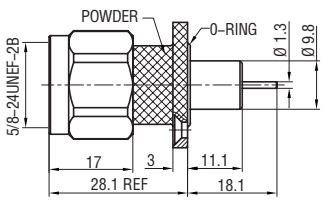
Straight Panel Mount Plug

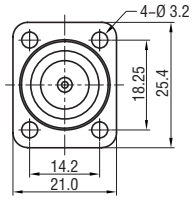




Part Number	50NCA55S-P12-001
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

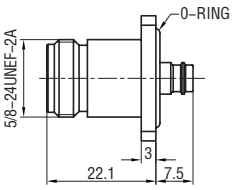
Straight Panel Mount Plug

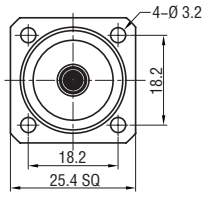




Part Number	50NCA55S-P11
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

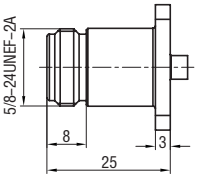
Straight Solder Jack

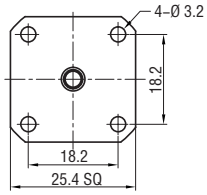




Part Number	50NCB15S-S01-003
Cable Group	RG405, .086"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

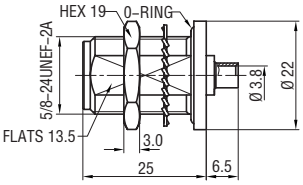
Straight Solder Jack

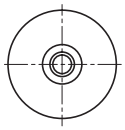




Part Number	50NCB15S-S02-039
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

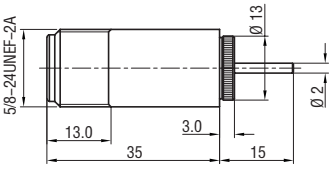
Straight Solder Jack





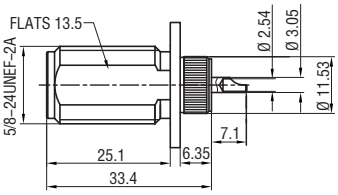
Part Number	50NCB55S-P029
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

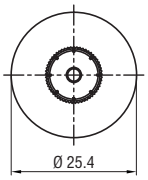
Straight Press-In Jack



Part Number	50NCB00S-P01
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

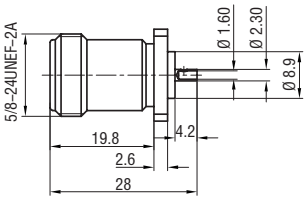
Straight Press-In Jack

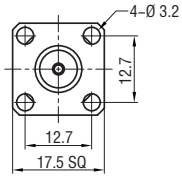




Part Number	50NCB35S-P02
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

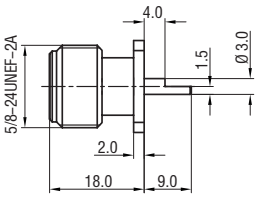
Straight Panel Mount Jack

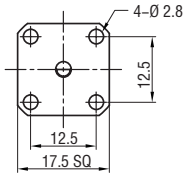




Part Number	50NCB35S-P02-010
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

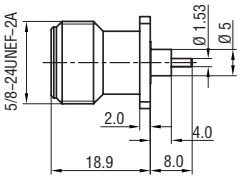
Straight Panel Mount Jack

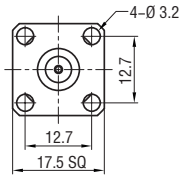




Part Number	50NCB55S-P36
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

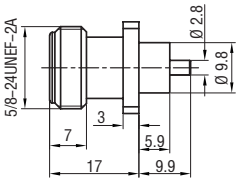
Straight Panel Mount Jack

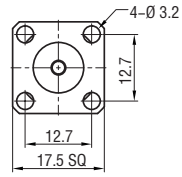




Part Number	50NCB55S-P93
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

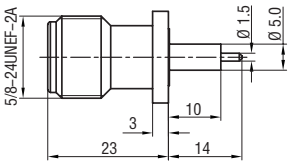
Straight Panel Mount Jack

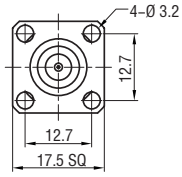




Part Number	50NCB55S-P111
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

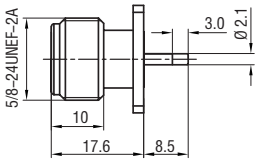
Straight Panel Mount Jack

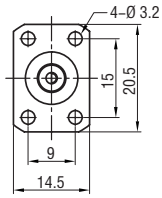




Part Number	50NCB55S-P152
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

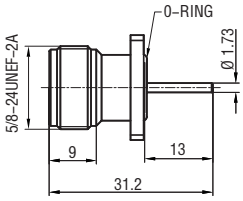
Straight Panel Mount Jack

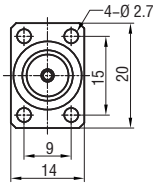




Part Number	50NCB55S-P76
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

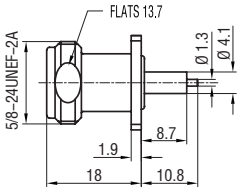
Straight Panel Mount Jack

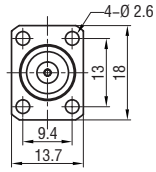




Part Number	50NCB55S-P148
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

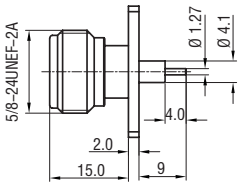
Straight Panel Mount Jack

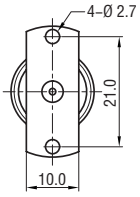




Part Number	50NCB55S-P275
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

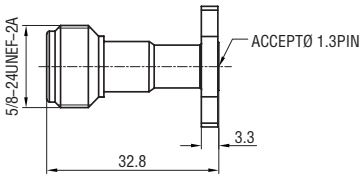
Straight Panel Mount Jack

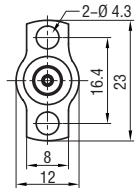




Part Number	50NCB55S-P90
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

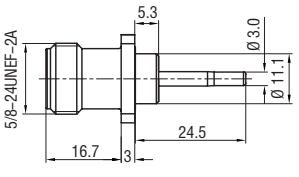
Straight Panel Mount Jack

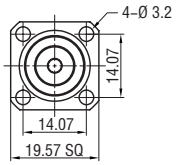




Part Number	50NCB55S-P280
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

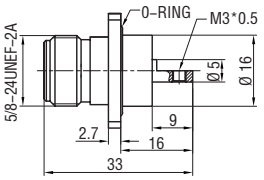
Straight Panel Mount Jack

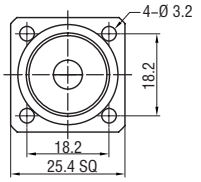




Part Number	50NCB55S-P63-005
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

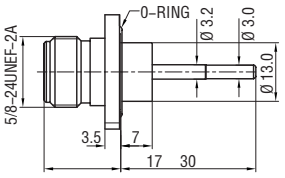
Straight Panel Mount Jack

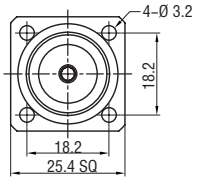




Part Number	50NCB55S-P63
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

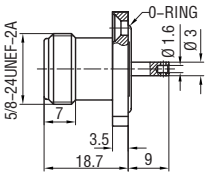
Straight Panel Mount Jack

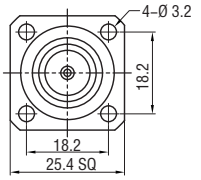




Part Number	50NCB55S-P63-002
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

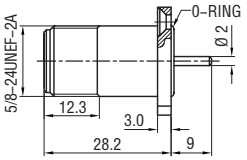
Straight Panel Mount Jack

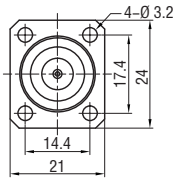




Part Number	50NCB55S-P117
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

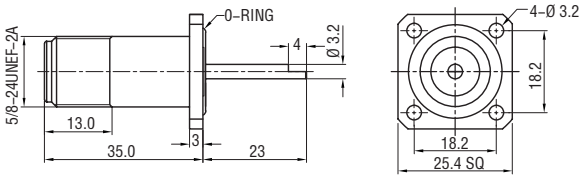
Straight Panel Mount Jack





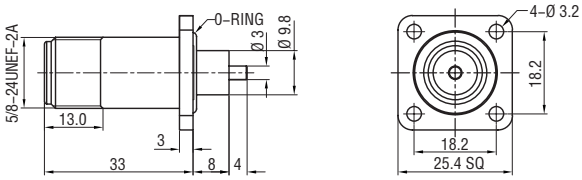
Part Number	50NCB55S-P75
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



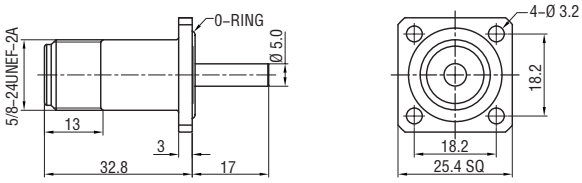
Part Number	50NCB55S-P80
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



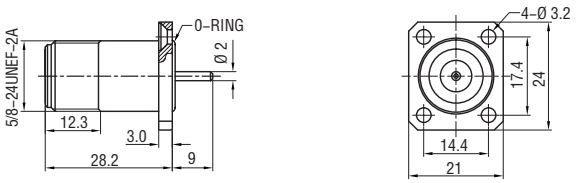
Part Number	50NCB55S-P86
Cable Group	-
Body	Brass, Chemic-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



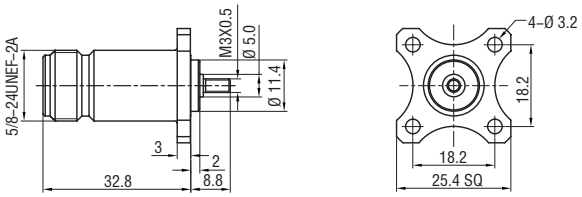
Part Number	50NCB55S-P127
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



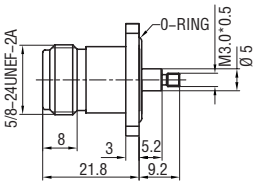
Part Number	50NCB55S-P75
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

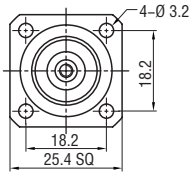
Straight Panel Mount Jack



Part Number	50NCB55S-P139
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

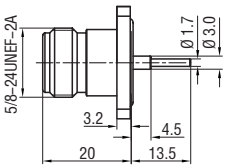
Straight Panel Mount Jack

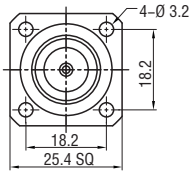




Part Number	50NCB55S-P187
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

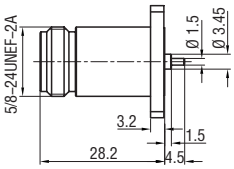
Straight Panel Mount Jack

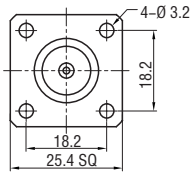




Part Number	50NCB55S-P262
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

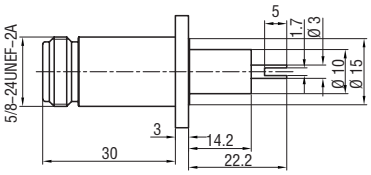
Straight Panel Mount Jack

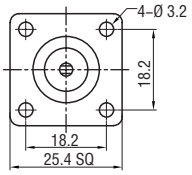




Part Number	50NCB55S-P190
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

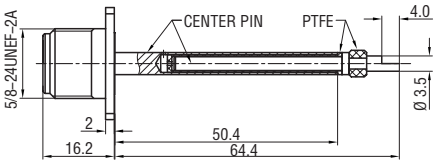
Straight Panel Mount Jack

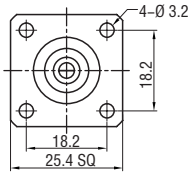




Part Number	50NCB55S-P199
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

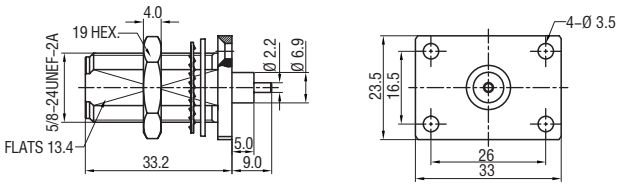
Straight Panel Mount Jack





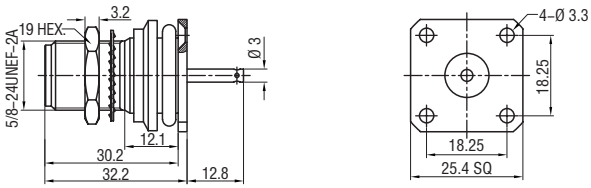
Part Number	50NCB55S-P136-001
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Bulkhead Mount Jack



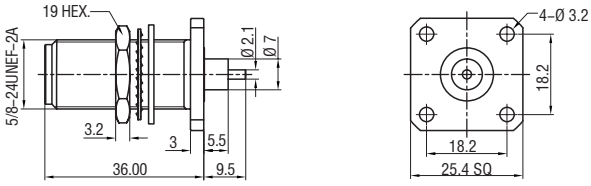
Part Number	50NCB55S-P029
Cable Group	-
Body	Brass, Chemic-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Bulkhead Mount Jack



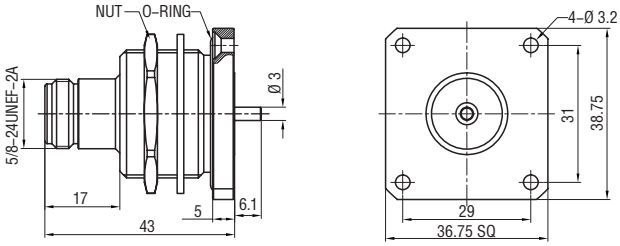
Part Number	50NCB55S-P30
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Gold Plating

Straight Bulkhead Mount Jack



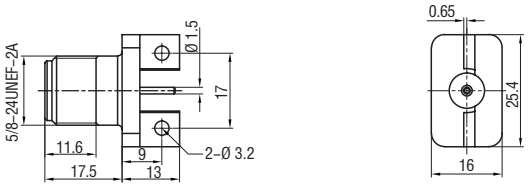
Part Number	50NCB55S-P219
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Bulkhead Mount Jack



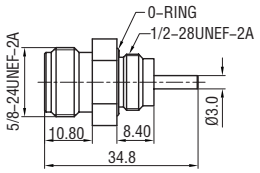
Part Number	50NCB55S-P159
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



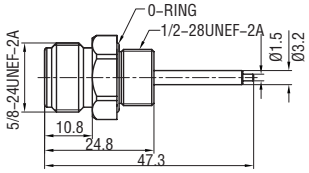
Part Number	50NCB55S-P169
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Bulkhead Mount Jack



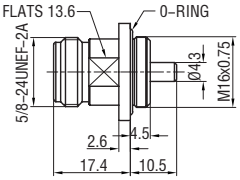
Part Number	50NCB55S-P41
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Gold Plating

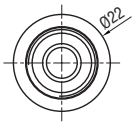
Straight Bulkhead Mount Jack



Part Number	50NCB55S-P125
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

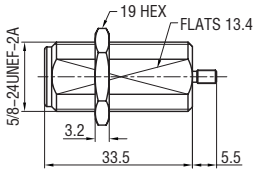
Straight Bulkhead Mount Jack





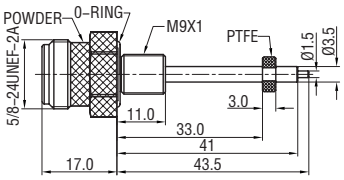
Part Number	50NCB55S-P266
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Bulkhead Mount Jack



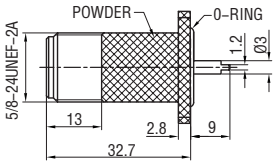
Part Number	50NCB55S-P101
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

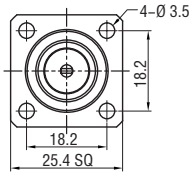
Straight Bulkhead Mount Jack



Part Number	50NCB55S-P200
Cable Group	–
Body	Brass, Tin-Nickel Plating
Center Contact	Beryllium Copper, Silver Plating

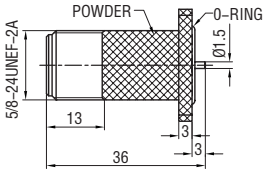
Straight Panel Mount Jack

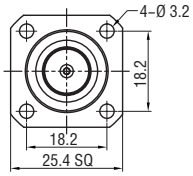




Part Number	50NCB55S-P45
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

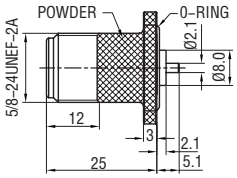
Straight Panel Mount Jack

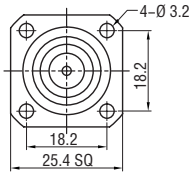




Part Number	50NCB55S-P51
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Gold Plating

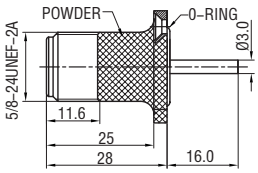
Straight Panel Mount Jack

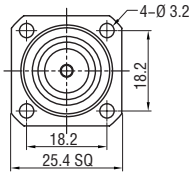




Part Number	50NCB55S-P70
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

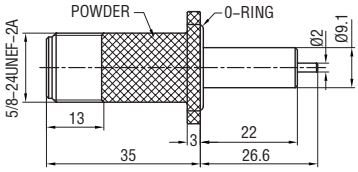
Straight Panel Mount Jack

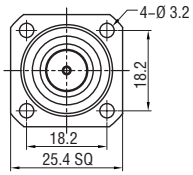




Part Number	50NCB55S-P113
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

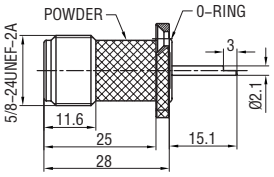
Straight Panel Mount Jack

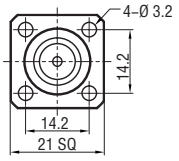




Part Number	50NCB55S-P105
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

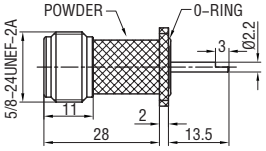
Straight Panel Mount Jack

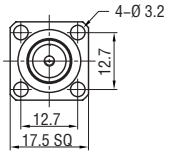




Part Number	50NCB55S-P69
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

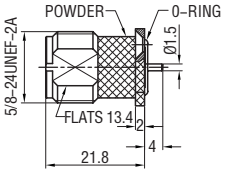
Straight Panel Mount Jack

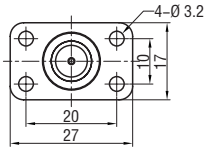




Part Number	50NCB55S-P134
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

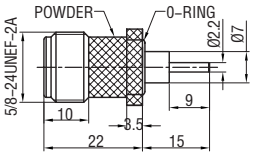
Straight Panel Mount Jack

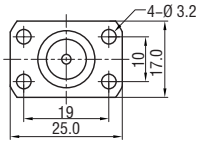




Part Number	50NCB55S-P53
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

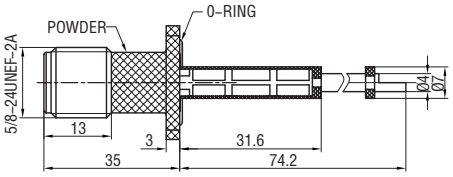
Straight Panel Mount Jack

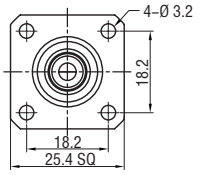




Part Number	50NCB55S-P53
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Gold Plating

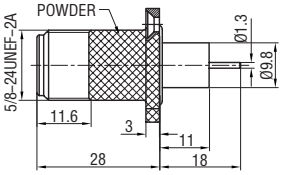
Straight Panel Mount Jack

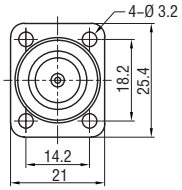




Part Number	50NCB55S-P122-006
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

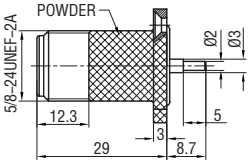
Straight Panel Mount Jack

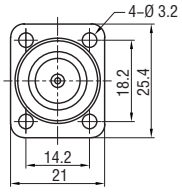




Part Number	50NCB55S-P116
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

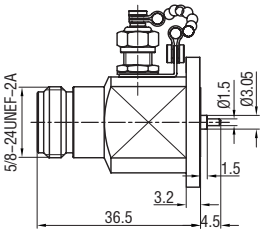
Straight Panel Mount Jack

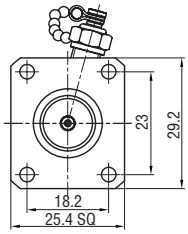




Part Number	50NCB55S-P147
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

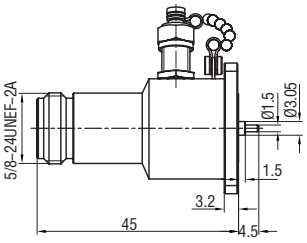
Straight Panel Mount Jack With SMA Coupler

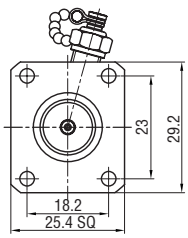




Part Number	50NCB55S-P192-046
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Beryllium Copper,Silver Plating

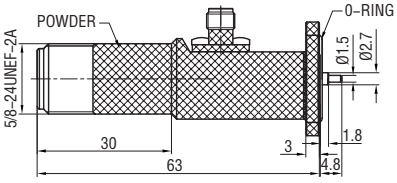
Straight Panel Mount Jack With SMA Coupler

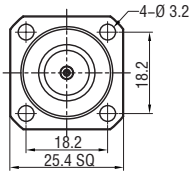




Part Number	50NCB55S-P192-042
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack With SMA Coupler





Part Number	50NCB55S-P104
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

射频同轴连接器

RF COAXIAL CONNECTORS

DIN(7/16)

产品特点

- 频率可达 7.5GHz;
- VSWR(直式): ≤ 1.15 @4GHz;
- 螺纹连接方式 ;
- 高等级防护及防水;
- 低衰减及低互调。

Product Features

- Frequency range up to 7.5GHz;
- VSWR(straight connector): ≤ 1.15 @ 4GHz;
- Screw lock coupling system;
- High degree of protection , Waterproof;
- Low attenuation and low PIM.

应用范围

- 基站;
- 电缆组件;
- 电子元件;
- 天线;
- 无线电连接;
- 移动通信基础设施网络。

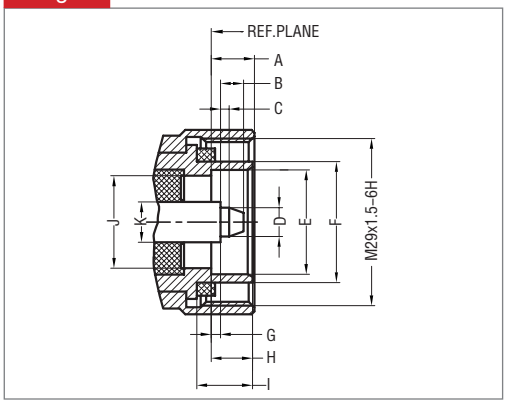
Application

- Base Station;
- Cable Assemblies;
- Components;
- Antennas;
- Radio Links;
- Mobile Communication Infrastructure Newwork.

介面尺寸

标准：IEC 61169-4

Plug

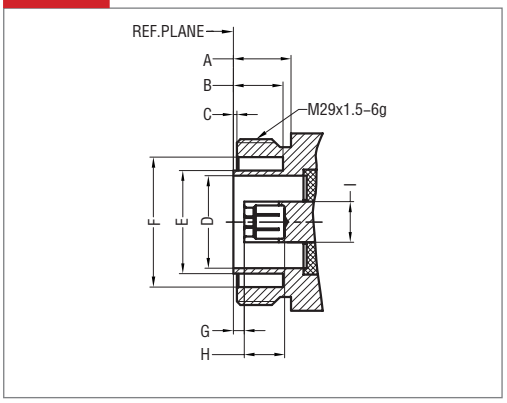


NO.	DIMENSION	
	mm	inch
A	7.00~9.00	0.276~0.354
B	4.5 Max.	0.177 Max.
C	1.40~1.60	0.0551~0.0630
D	4.96~5.04	0.1953~0.1984
E	18.03~18.21	0.7098~0.7169
F	20.60~21.40	0.811~0.843
G	1.47~1.77	0.0579~0.0697
H	7.00~8.00	0.276~0.315
I	9.00 Ref.	0.354 Ref.
J	15.85~16.25	0.6240~0.6398
K	7.00 Nom.	0.276 Nom.

Interface Dimension

Standard：IEC 61169-4

Jack



NO.	DIMENSION	
	mm	inch
A	10.00 Min.	0.394 Min.
B	8.1 Min.	0.319 Min.
C	0.50~0.70	0.0197~0.0276
D	15.85~16.25	0.6240~0.6398
E	17.84~18.02	0.7024~0.7094
F	22.10~22.90	0.870~0.902
G	1.77~2.07	0.0697~0.0815
H	5.0 Min.	0.197 Min.
I	7.00 Nom.	0.276 Nom.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC-7.5GHz	Frequency Range	DC-7.5GHz
电压驻波比	≤ 1.05@DC-0.5GHz ≤ 1.15@ 0.5-4GHz ≤ 1.30@ 4-7.5GHz	VSWR	≤ 1.05@DC-0.5GHz ≤ 1.15@ 0.5-4GHz ≤ 1.30@ 4-7.5GHz
插入损耗 (f=GHz)	≤ 0.05x √ f dB	Insertion loss(f=GHz)	≤ 0.05x √ f dB
测试电压	4000V rms	Test Voltage	4000V rms
工作电压	2700V rms	Work Voltage	2700V rms
绝缘阻抗	≥ 10000MΩ	Insulation Resistance	≥ 10000MΩ
接触电阻	内导体 : 0.4 mΩ Max; 外导体 : 1.5 mΩ Max.	Contact Resistance	Center Contact: 0.4 mΩ Max; Outer Contact: 1.5 mΩ Max.
射频泄漏	≥ 128 dB@DC-1GHz	Rf-Leakage	≥ 128 dB@DC-1GHz
三阶互调	≤ -160 dBc@2x20W	PIM 3rd	≤ -160 dBc@2x20W

机械性能	参数	Mechanical Data	Data
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	35Nm Max; 建议: 25~30Nm	Coupling Torque	35Nm Max; Rec. 25~30Nm
连接螺母保持力	≥ 1000N	Coupling Nut Retention	≥ 1000N
内导体保持力	轴向≥ 200N 径向≥ 0.2Nm	Center Contact Captivation	axial ≥ 200N radial ≥ 0.2Nm

材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀银 / 镀三元合金	Body	Brass	Silver Plated/ White Bronze Plated
连接螺母	黄铜	镀镍 / 镀三元合金	Coupling Nut	Brass	Nickel Plated/ White Bronze Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/ Beryllium Copper	Gold Plated/Silver Plated
压接套管	紫铜 / 黄铜	镀银 / 镀三元合金	Crimp Ferrule	Copper/Brass	Silver Plated/ White Bronze Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

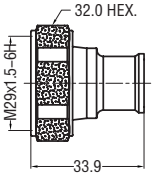
环境特性	参数	Environmental Data	Data
温度范围	-55℃ ~155℃	Temperature Range	-55℃ ~155℃
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B	Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B
振动	MIL-STD-202 method 204. Condition B	Vibration	MIL-STD-202 method 204. Condition B
冲击	MIL-STD-202 method 213. Condition G	Shock	MIL-STD-202 method 213. Condition G

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

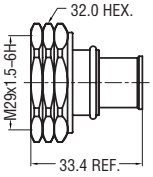
DIN(7/16)

Straight Solder Plug



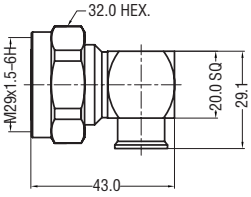
Part Number	50A7A15S-L12-003
Cable Group	1/2" Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

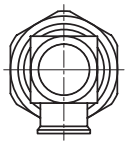
Straight Solder Plug



Part Number	50A7A15S-L12-006
Cable Group	1/2" Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

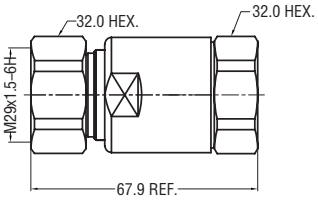
Right Angle Solder Plug





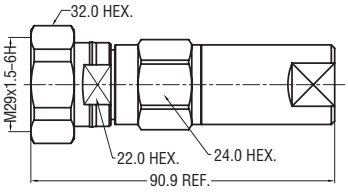
Part Number	50A7A15R-S12
Cable Group	1/2"Superflex Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

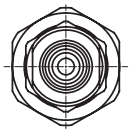
Straight Clamp Plug



Part Number	50A7A15S-L78-002
Cable Group	7/8" Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Clamp Plug



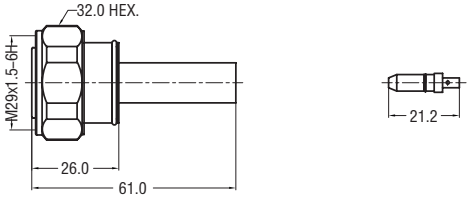


Part Number	50A7A15S-L12-008
Cable Group	1/2" Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug

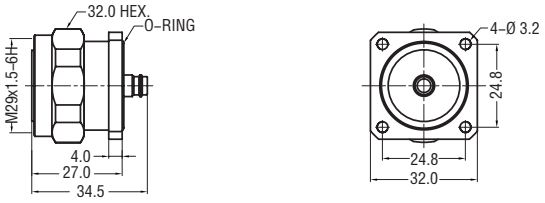
Part Number	50A7A15S-S04
Cable Group	PL1200
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



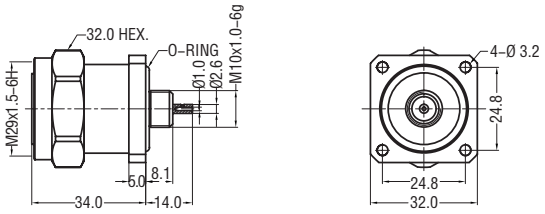
Part Number	50A7A15S-S03-002
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



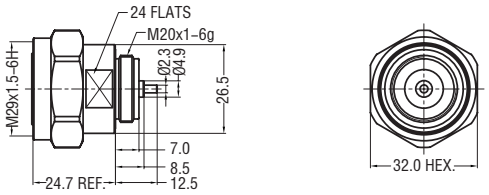
Part Number	50A7A15S-S01-002
Cable Group	RG405, .086"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



Part Number	50A7A15S-S02-001
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Bulkhead Mount Plug



Part Number	50A7A00S-T05
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

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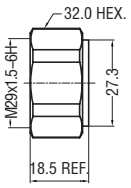
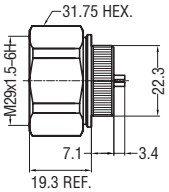
Straight Plug Cap



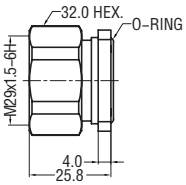
Part Number	50A7A00S-T001
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	-

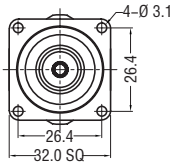
Straight Press-In Plug



Part Number	50A7A00S-003
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, White Bronze Plating

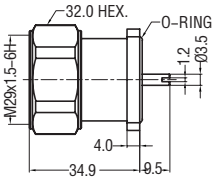
Straight Panel Mount Plug

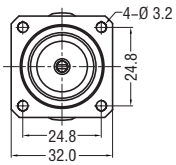




Part Number	50A7A55S-P50
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

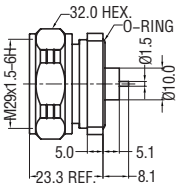
Straight Panel Mount Plug

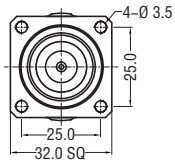




Part Number	50A7A55S-P01
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

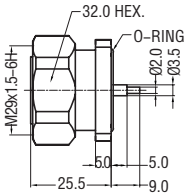
Straight Panel Mount Plug

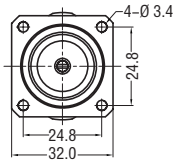




Part Number	50A7A55S-P12
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Panel Mount Plug

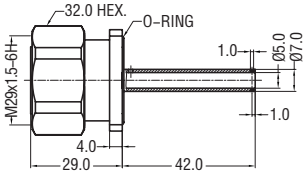


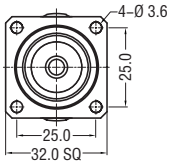


7/16 MALE CONNECTOR

Part Number	50A7A55S-P13
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

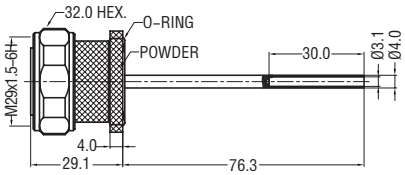
Straight Panel Mount Plug

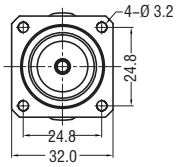




Part Number	50A7A55S-P11
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

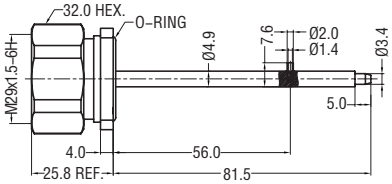
Straight Panel Mount Plug

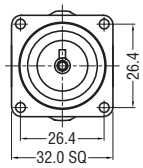




Part Number	50A7A55S-P28-001
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

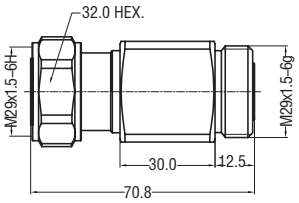
Straight Panel Mount Plug





Part Number	50A7A55S-P50-001
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Plug to Jack (DC Block)



Part Number	50A7A00S-A7B-002
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

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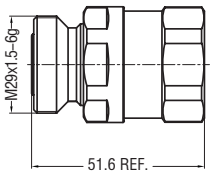
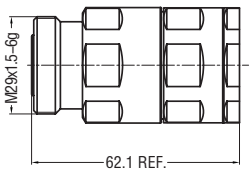
Straight Clamp Jack



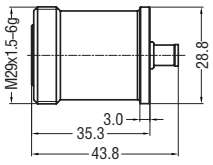
Part Number	50A7B15S-L78-001
Cable Group	7/8" Cable
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

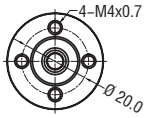
Straight Clamp Jack



Part Number	50A7B15S-L78
Cable Group	7/8" Cable
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

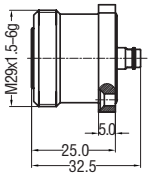
Straight Solder Jack

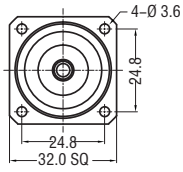




Part Number	50A7A15S-S07
Cable Group	.171"
Body	Brass, Tin- Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

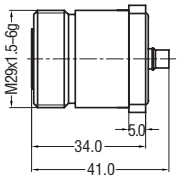
Straight Solder Jack

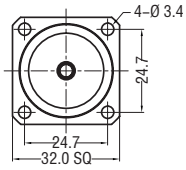




Part Number	50A7B15S-S01-002
Cable Group	RG405, .086"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

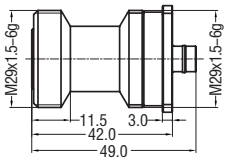
Straight Solder Jack

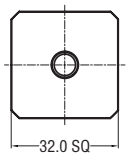




Part Number	50A7B55S-S02-013
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

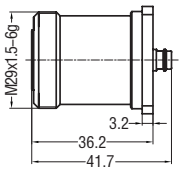
Straight Solder Jack

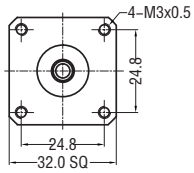




Part Number	50A7B15S-S02-017
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

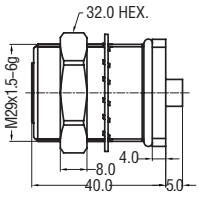
Straight Solder Jack

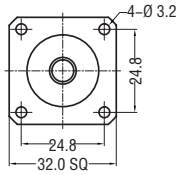




Part Number	50A7B15S-S02-021
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

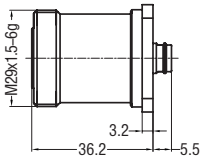
Straight Solder Jack

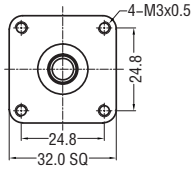




Part Number	50A7B15S-S04
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

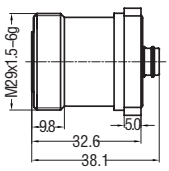
Straight Solder Jack

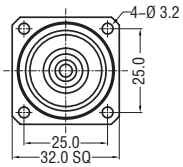




Part Number	50A7B15S-S05
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Solder Jack





Part Number	50A7B15S-S05-004
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

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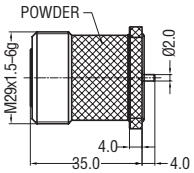
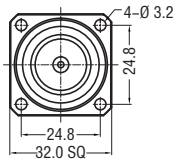
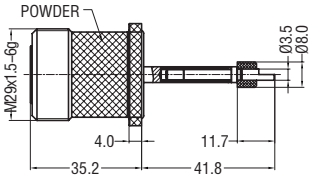
Straight Panel Mount Jack

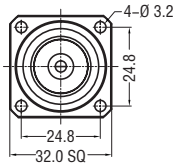




Part Number	50A7B55S-P149-020
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

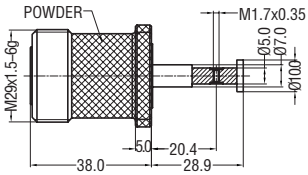
Straight Panel Mount Jack

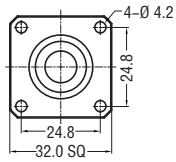




Part Number	50A7B55S-P149-029
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

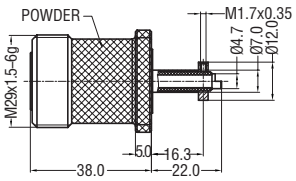
Straight Panel Mount Jack

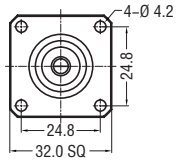




Part Number	50A7B55S-P133-075
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

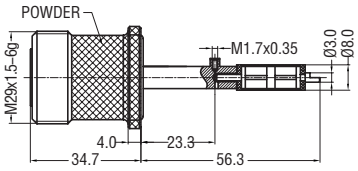
Straight Panel Mount Jack

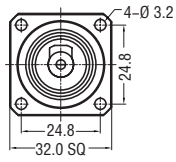




Part Number	50A7B55S-P133-010
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

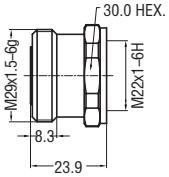
Straight Panel Mount Jack





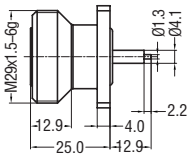
Part Number	50A7B55S-P127-068
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

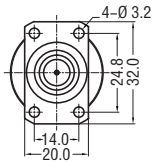
Straight Panel Mount Jack



Part Number	50A7B55S-P269
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

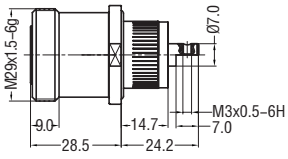
Straight Panel Mount Jack





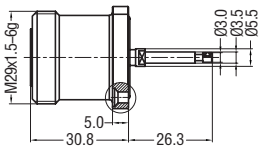
Part Number	50A7B55S-P268
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

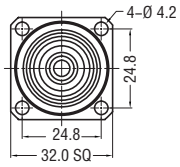
Straight Press-In Jack



Part Number	50A7B55S-P263
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

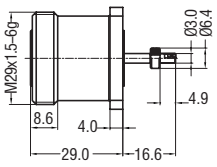
Straight Panel Mount Jack

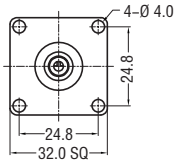




Part Number	50A7B55S-P247-001
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack

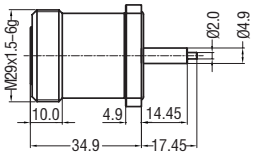


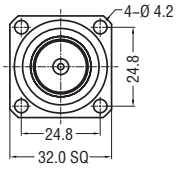


Part Number	50A7B55S-P242
Cable Group	–
Body	Brass, Silver Plating
Center Contact	Phosphor Bronze, Silver Plating

DIN(7/16)

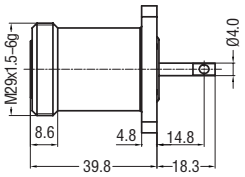
Straight Panel Mount Jack

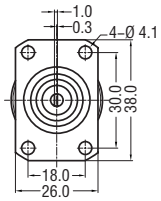




Part Number	50A7B55S-P283
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

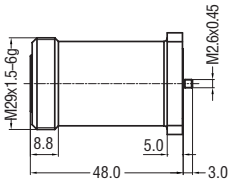
Straight Panel Mount Jack

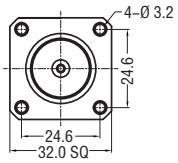




Part Number	50A7B55S-P280
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

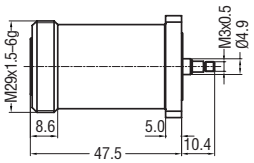
Straight Panel Mount Jack

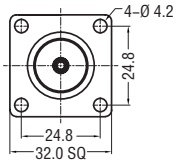




Part Number	50A7B55S-P273
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

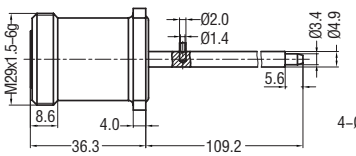
Straight Panel Mount Jack

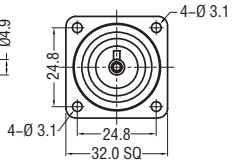




Part Number	50A7B55S-P273-003
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

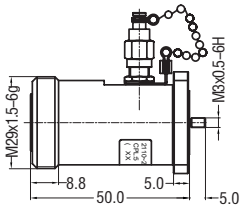
Straight Panel Mount Jack

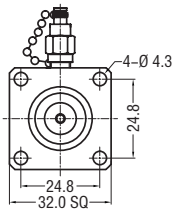




Part Number	50A7B55S-P271
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

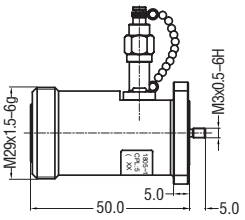
Straight Panel Mount Jack With SMA Coupler

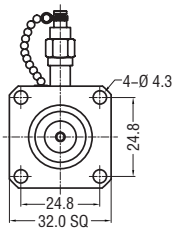




Part Number	50A7B55S-P239-022
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

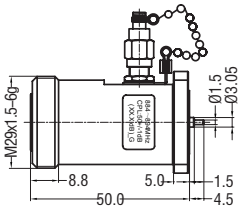
Straight Panel Mount Jack With SMA Coupler

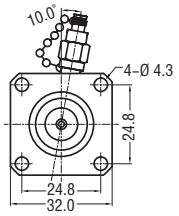




Part Number	50A7B55S-P239-027
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

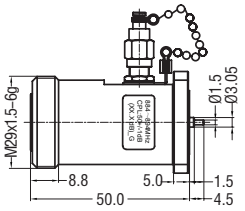
Straight Panel Mount Jack With SMA Coupler

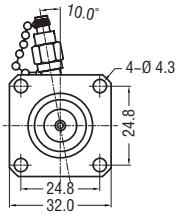




Part Number	50A7B55S-P239-030
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

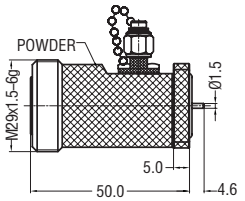
Straight Panel Mount Jack With SMA Coupler

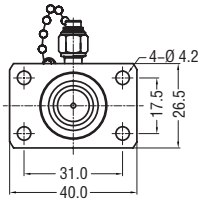




Part Number	50A7B55S-P239-032
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack With SMA Coupler





Part Number	50A7B55S-P239-029
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

射频同轴连接器

RF COAXIAL CONNECTORS

1.0–2.3

产品特点

- 频率可达 10GHz；
- VSWR(直式): ≤ 1.23;
- 优良稳定的机械和电气特性 ;
- 1.0–2.3 拉拔式结构提供了安全的连接；
- 高传输速率；
- 紧凑型设计节约空间。

Product Features

- Frequency range up to 10GHz;
- VSWR(straight connector): ≤ 1.23;
- High mechanical and electrical stability.
- 1.0–2.3 Push–Pull offers safe coupling.
- Transmission of high bit–rates;
- Compact design to reduce space.

应用范围

- 基站；
- 电缆组件；
- 电子元件；
- 路由器；
- 开关设备；
- 电信系统。

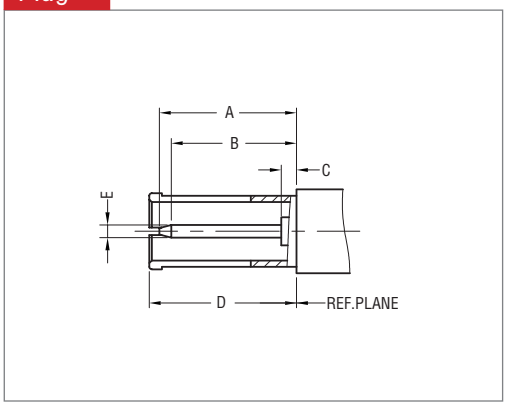
Application

- Base Station；
- Cable Assemblies；
- Components；
- Routers;
- Switching Equipment；
- Telecom.

介面尺寸

标准：DIN 47297 / CECC 22230

Plug

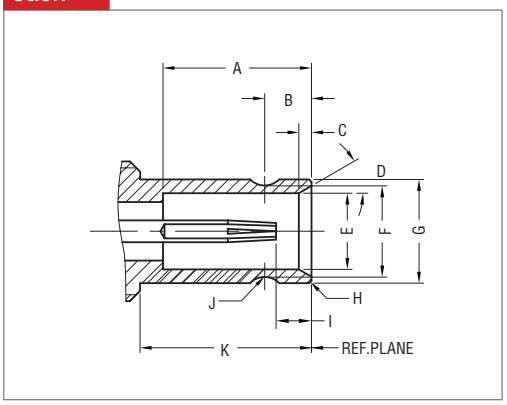


NO.	DIMENSION	
	mm	inch
A	5.50 Max.	0.217 Max.
B	4.50 Min.	0.177 Min.
C	1.15 Max.	0.045 Max.
D	5.40~5.70	0.212~0.224
E	0.475~0.520	0.0187~0.0205

Interface Dimension

Standard：DIN 47297 / CECC 22230

Jack



NO.	DIMENSION	
	mm	inch
A	5.80~5.90	0.228~0.232
B	1.80~1.90	0.071~0.075
C	0.50~0.60	0.020~0.024
D	28° ~32°	28° ~32°
E	3.00~3.06	0.1181~0.1204
F	3.53~3.60	0.139~0.142
G	4.03~4.15	0.159~0.163
H	R0.30 Max.	R0.012 Max.
I	1.15~1.70	0.045~0.067
J	R0.80 Nom.	R0.031 Nom.
K	6.40~6.50	0.252~0.256

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC-10GHz	Frequency Range	DC-10GHz
电压驻波比	≤ 1.05@DC-1GHz ≤ 1.15@ 1-4GHz ≤ 1.37@ 4-10GHz	VSWR	≤ 1.05@DC-1GHz ≤ 1.15@ 1-4GHz ≤ 1.37@ 4-10GHz
插入损耗 (f=GHz)	≤ 0.1x √ f dB	Insertion loss(f=GHz)	≤ 0.1x √ f dB
测试电压	750V rms	Test Voltage	750V rms
工作电压	250V rms	Work Voltage	250V rms
绝缘阻抗	≥ 1000MΩ	Insulation Resistance	≥ 1000MΩ
接触电阻	内导体 : 4.0 mΩ Max; 外导体 : 2.5 mΩ Max.	Contact Resistance	Center Contact: 4.0 mΩ Max; Outer Contact: 2.5 mΩ Max.
射频泄漏	≥ 90 dB	Rf-Leakage	≥ 90 dB
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	≥ 500	Mating Cycles	≥ 500
内导体保持力	≥ 10N	Center Contact Captivation	≥ 10N
啮合力和分离力	0.9N~10N	Engaging and disengaging force	0.9N~10N

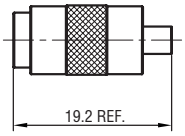
材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 铍铜	镀金 / 镀镍	Body	Brass/Beryllium Copper	Gold Plated/ Nickel Plated
连接螺母	黄铜	镀金 / 镀镍	Coupling Nut	Brass	Gold Plated/ Nickel Plated
内导体	黄铜 / 铍铜	镀金	Center Contact	Brass/Beryllium Copper	Gold Plated
压接套管	紫铜 / 黄铜	镀金 / 镀镍	Crimp Ferrule	Copper/Brass	Gold Plated/ Nickel Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

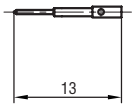
环境特性	参数	Environmental Data	Data
温度范围	-45℃ ~+85℃	Temperature Range	-45℃ ~+85℃
气候等级	IEC 60068-2-1 40/85/21 IEC 60068-2-2 IEC 60068-2-13	Climatic Class	IEC 60068-2-1 40/85/21 IEC 60068-2-2 IEC 60068-2-13
振动	IEC 60068-2-6 @10Hz ~2000Hz,100m/s^2	Vibration	IEC 60068-2-6 @10Hz ~2000Hz,100m/s^2

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

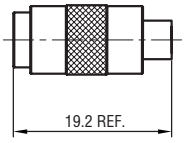
Straight Solder Plug

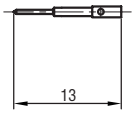




Part Number	50A1A11S–S01
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

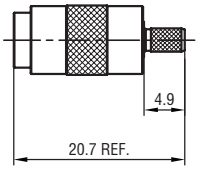
Straight Solder Plug

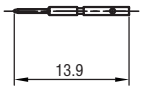


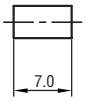


Part Number	50A1A11S–S02–001
Cable Group	RG402, .141"
Body	Brass, Gold Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug

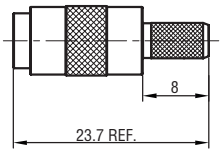


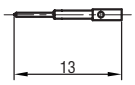


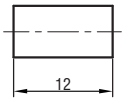


Part Number	50A1A11S–A01–001
Cable Group	RG179/U
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug

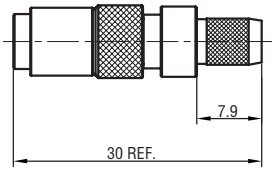


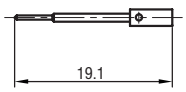


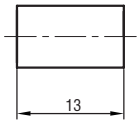


Part Number	50A1A11S–A42
Cable Group	RG58/U
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

Straight Crimp Plug

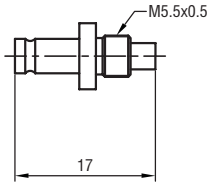


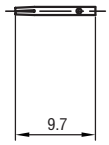




Part Number	50A1A11S–A46–002
Cable Group	LMR240
Body	Brass, Nickel Plating
Center Contact	Brass, Gold Plating

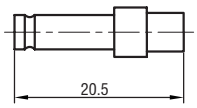
Straight Solder Jack

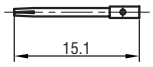




Part Number	50A1B15S-S01-004
Cable Group	RG405, .086"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

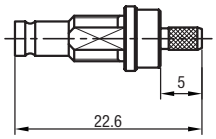
Straight Solder Jack





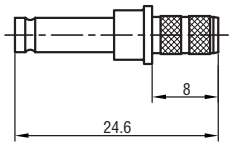
Part Number	50A1B15S-S02-001
Cable Group	RG402, .141"
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

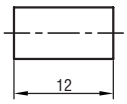
Straight Crimp Jack



Part Number	50A1B11S-A02
Cable Group	RG174, RG316/U
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

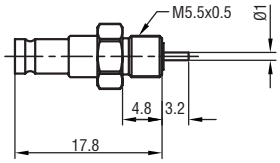
Straight Crimp Jack





Part Number	50A1B11S-A41-001
Cable Group	RG223/U
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

Straight Panel Mount Jack



Part Number	50A1B55S-P01
Cable Group	–
Body	Brass, Nickel Plating
Center Contact	Beryllium Copper, Gold Plating

射频同轴连接器

RF COAXIAL CONNECTORS

4.3–10

产品特点

- 频率可达 12GHz；
- VSWR(直式): ≤ 1.15 @6GHz;
- 径向接触；
- 紧凑的尺寸（25.4 mm 法兰）；
- 重量比 7/16 轻 40%;
- 优良的三阶互调和回损；
- 多种耦合连接方式；
- 简化安装 .

Product Features

- Frequency range up to 12GHz;
- VSWR(straight connector): ≤ 1.15 @6GHz;
- Radial contact;
- Compact size(25.4mm flange);
- 40% lower weight than 7/16;
- Excellent PIM and Return loss;
- Multiple coupling options;
- Ease of installation.

应用范围

- 基站；
- 电缆组件；
- 电子元件；
- 天线；
- 过程控制系统；
- 电信系统。

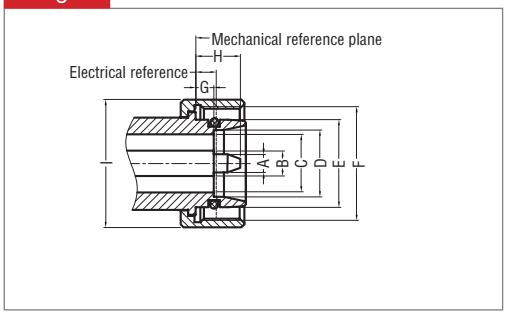
Application

- Base Station；
- Cable Assemblies；
- Components；
- Antennas；
- Process Controls；
- Telecom.

介面尺寸

标准：IEC 61169–54

Plug

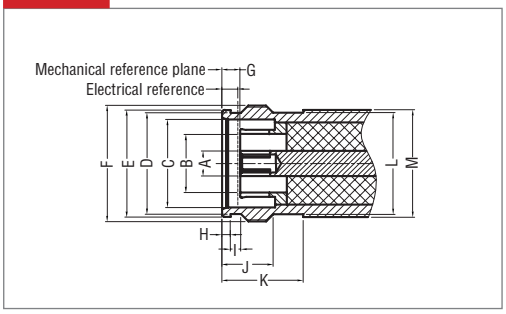


NO.	DIMENSION	
	mm	inch
A	3.07~3.13	0.1208~0.1232
B	4.35 Nom.	0.171 Nom.
C	10.00 Nom.	0.394 Nom.
D	11.47~11.53	0.452~0.454
E	15.07~15.11	0.593~0.595
F	M20x1–6H	M20x1–6H
G	2.90 Max. (Center and Outer Contact)	0.114 Max. (Center and Outer Contact)
H	8.00 Max.	0.315 Max.
I	22.00 Nom.	0.866 Nom.

Interface Dimension

Standard：IEC 61169–54

Jack



NO.	DIMENSION	
	mm	inch
A	4.35 Nom.	0.171 Nom.
B	10.00 Nom.	0.394 Nom.
C	15.13~15.19	0.596~0.598
D	17.40~17.50	0.685~0.689
E	18.44~18.50	0.726~0.728
F	M20x1–6g	M20x1–6g
G	3.10~3.50 (Center and Outer Contact)	0.122~0.138 (Center and Outer Contact)
H	1.44~1.50	0.057~0.059
I	1.70~1.90	0.067~0.075
J	8.70~8.90	0.343~0.350
K	13.90~14.10	0.547~0.555
L	17.45~17.55	0.687~0.691
M	18.60 Min.	0.732 Min.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC–12GHz	Frequency Range	DC–12GHz
电压驻波比	≤ 1.08@DC–4GHz ≤ 1.15@ 4–6GHz	VSWR	≤ 1.08@DC–4GHz ≤ 1.15@ 4–6GHz
插入损耗 (f=GHz)	≤ 0.05x √ f dB	Insertion loss(f=GHz)	≤ 0.05x √ f dB
测试电压	2500V rms	Test Voltage	2500V rms
工作电压	1000V rms	Work Voltage	1000V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 1.0 mΩ Max; 外导体 : 1.0 mΩ Max.	Contact Resistance	Center Contact: 1.0 mΩ Max; Outer Contact: 1.0 mΩ Max.
射频泄漏	≥ 110 dB(螺纹类型)	Rf–Leakage	≥ 110 dB(Screw type)
三阶互调	≤ –165 dBc@2x20W	PIM 3rd	≤ –165 dBc@2x20W
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	5~8Nm	Coupling Torque	5~8Nm
连接螺母保持力	≥ 450N	Coupling Nut Retention	≥ 450N
内导体保持力	轴向≥ 30N 径向≥ 0.2Nm	Center Contact Captivation	axial ≥ 30N radial ≥ 0.2Nm

材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀银 / 镀三元合金	Body	Brass	Silver Plated/ White Bronze Plated
连接螺母	黄铜	镀镍 / 镀三元合金	Coupling Nut	Brass	Nickel Plated/ White Bronze Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/ Beryllium Copper	Gold Plated/ Silver Plated
压接套管	紫铜 / 黄铜	镀银 / 镀三元合金	Crimp Ferrule	Copper/Brass	Silver Plated/ White Bronze Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	

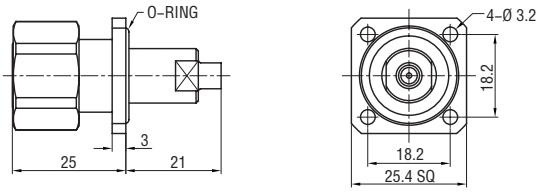
环境特性	参数	Environmental Data	Data
温度范围	–45℃ ~+125℃	Temperature Range	–45℃ ~+125℃
耐腐蚀性（盐雾）	MIL–STD–202 method 101. Condition B	Corrosion (Salt Spray)	MIL–STD–202 method 101. Condition B
振动	MIL–STD–202 method 204. Condition B	Vibration	MIL–STD–202 method 204. Condition B
冲击	MIL–STD–202 method 213. Condition G	Shock	MIL–STD–202 method 213. Condition G
气候等级	IEC 60068 65/85/21 IEC 60068 65/165/21 PTFE Insulator	Climatic Class	IEC 60068 65/85/21 IEC 60068 65/165/21 PTFE Insulator

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

4.3–10

Straight Solder Plug

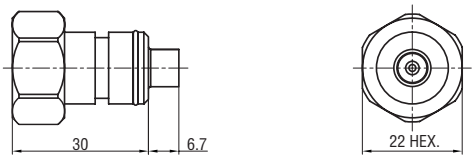


Part Number	50A3A15S–S02–001
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Right Angle Solder Plug

Part Number	50A3A15R–S02
Cable Group	RG402, .141"
Body	Brass, Tin–Nickel Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



Part Number	50A3A15S–S03
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

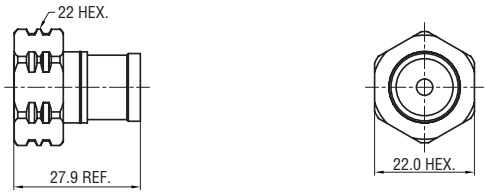
Straight Solder Plug

Part Number	50A3A15S–S03–001
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug

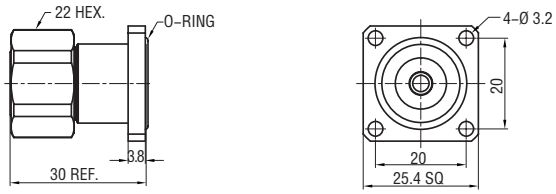
Part Number	50A3A15S–S12
Cable Group	1/2"SuperFlex Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



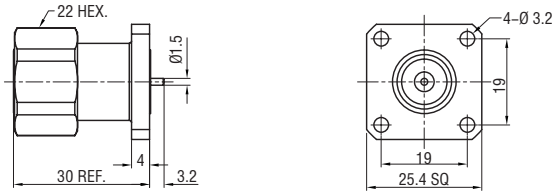
Part Number	50A3A15S-S12-002
Cable Group	1/2"SuperFlex Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Panel Mount Plug



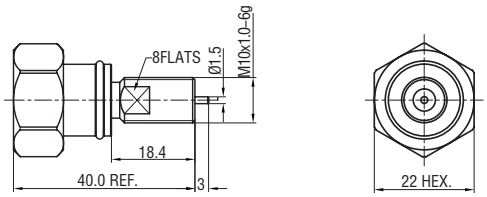
Part Number	50A3A55S-P01
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Plug



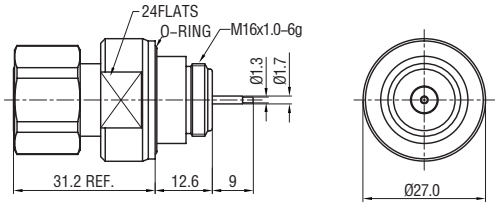
Part Number	50A3A55S-P01-001
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Brass, Silver Plating

Straight Bulkhead Mount Plug



Part Number	50A3A15S-P01
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

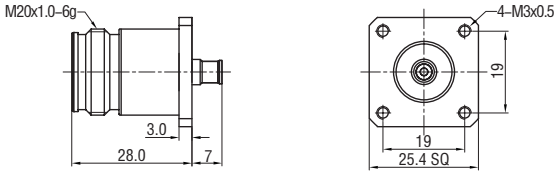
Straight Bulkhead Mount Plug



Part Number	50A3A55S-P02
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

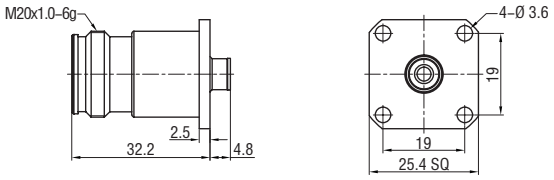
4.3–10

Straight Solder Jack



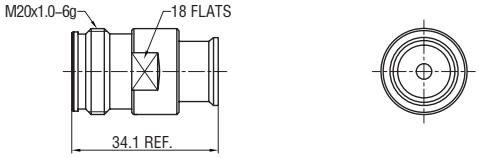
Part Number	50A3B15S–S02–001
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Solder Jack



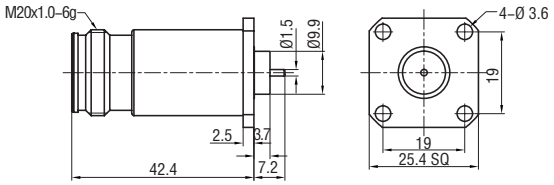
Part Number	50A3B15S–S03
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Solder Jack



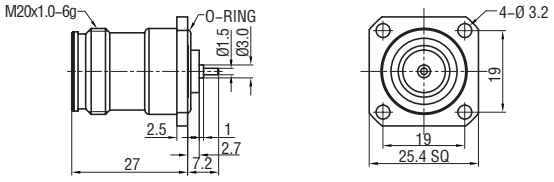
Part Number	50A3B15S–S12
Cable Group	1/2"SuperFlex Cable
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



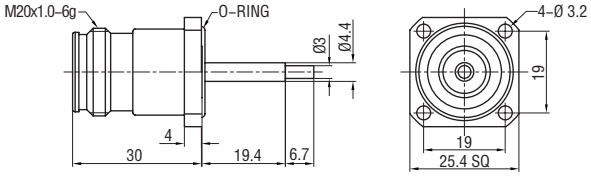
Part Number	50A3B55S–P01
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



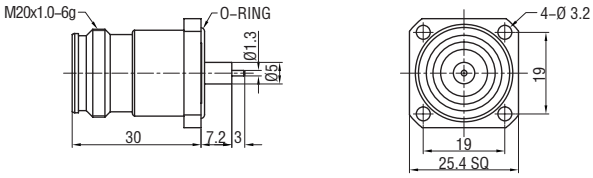
Part Number	50A3B55S–P19
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



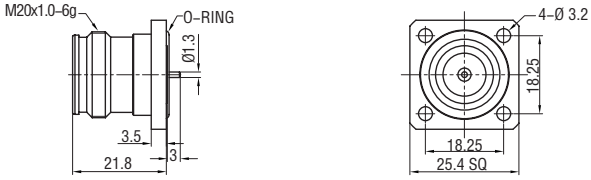
Part Number	50A3B55S-P21
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



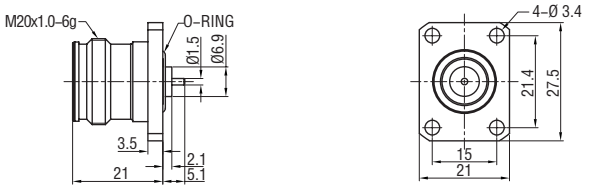
Part Number	50A3B55S-P28
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



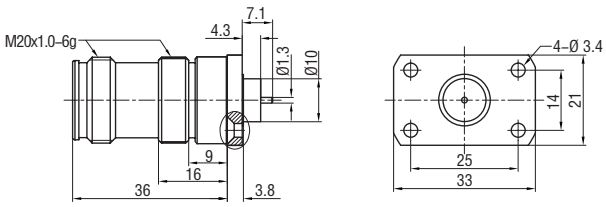
Part Number	50A3B55S-P25
Cable Group	–
Body	Brass, Tin-Nickel Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



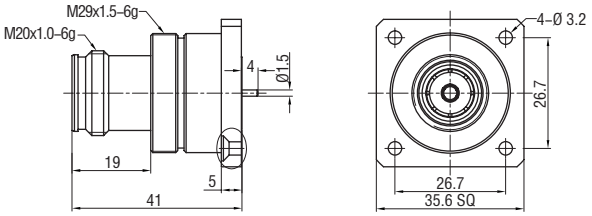
Part Number	50A3B55S-P03
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



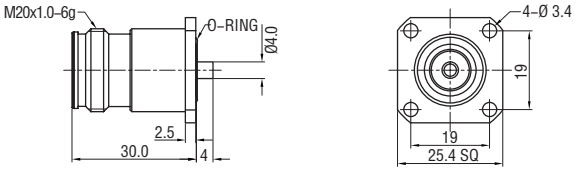
Part Number	50A3B55S-P27
Cable Group	–
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack



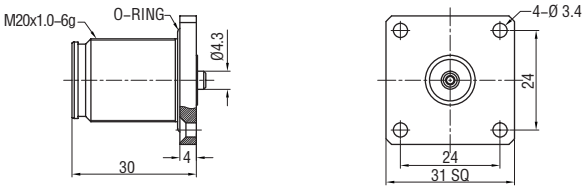
Part Number	50A3B55S–P02
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



Part Number	50A3B55S–P17
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack

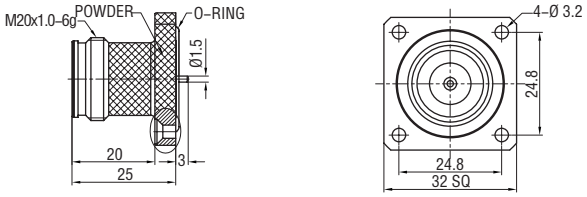


Part Number	50A3B55S–P34
Cable Group	–
Body	Brass, Silver Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack

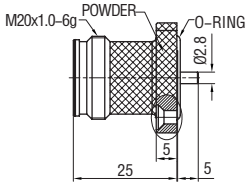
Part Number	50A3B55S–P20
Cable Group	–
Body	Brass, Tin–Nickel Plating
Center Contact	Beryllium Copper, Silver Plating

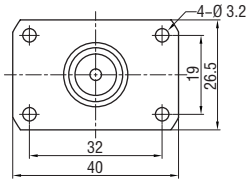
Straight Panel Mount Jack



Part Number	50A3B55S–P15
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

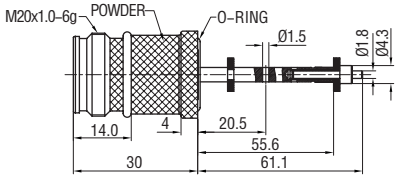
Straight Panel Mount Jack

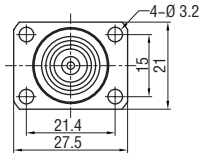




Part Number	50A3B55S-P14
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

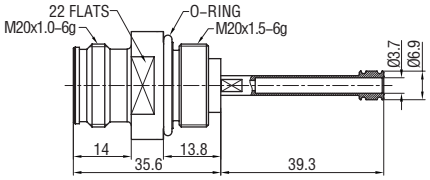
Straight Panel Mount Jack

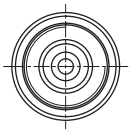




Part Number	50A3B55S-P13
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

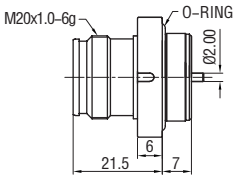
Straight Bulkhead Mount Jack

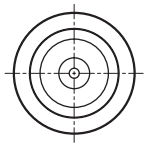




Part Number	50A3B55S-P16
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

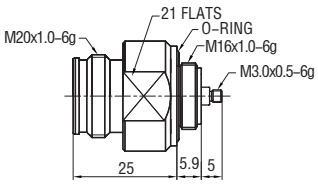
Straight Press-In Jack





Part Number	50A3B55S-P32
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Bulkhead Mount Jack



Part Number	50A3B55S-P33
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

射频同轴连接器

RF COAXIAL CONNECTORS

4.1–9.5

产品特点

- 频率可达 14GHz；
- VSWR(直式): ≤ 1.14 @4GHz
- 螺纹连接方式 ;
- 防气候变化；
- 低衰减及低互调。

Product Features

- Frequency range up to 14GHz;
- VSWR(straight connector): ≤ 1.14 @4GHz;
- Screw lock coupling system;
- Weather and climatic proof;
- Low attenuation and low PIM.

应用范围

- 基站；
- 电缆组件；
- 电子元件；
- 天线；
- 过程控制系统；
- 电信系统。

Application

- Base Station；
- Cable Assemblies；
- Components；
- Antennas；
- Process Controls；
- Telecom.

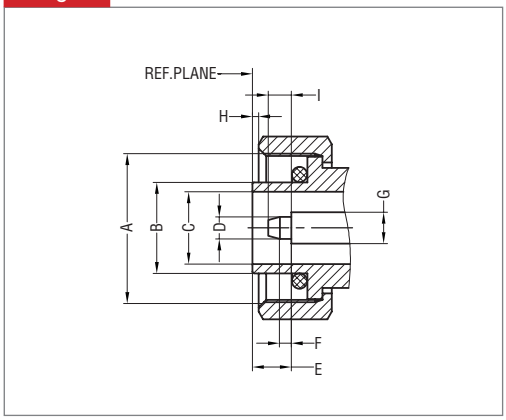
介面尺寸

标准：IEC 60169–11

Interface Dimension

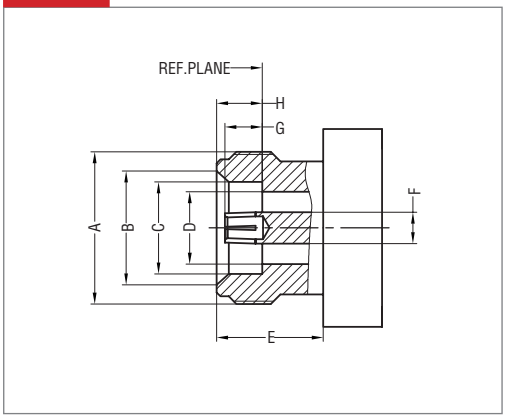
Standard：IEC 60169–11

Plug



NO.	DIMENSION	
	mm	inch
A	M20x1–6H	M20x1–6H
B	11.84~12.02	0.4661~0.4732
C	9.40~9.60	0.3701~0.3780
D	2.855~2.945	0.1124~0.1159
E	5.05~5.35	0.1988~0.2106
F	0.80~1.60	0.031~0.063
G	4.13 Nom.	0.1626 Nom.
H	0.00~1.00	0.000~0.039
I	2.00~4.00	0.079~0.157

Jack



NO.	DIMENSION	
	mm	inch
A	M20x1–6g	M20x1–6g
B	14.90~15.00	0.5866~0.5906
C	12.03~12.21	0.4736~0.4807
D	9.40~9.60	0.3701~0.3780
E	8.00 Min.	0.315 Min.
F	4.13 Nom.	0.1626 Nom.
G	4.73~5.03	0.1862~0.1980
H	5.80~6.20	0.2283~0.2441

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC–14GHz	Frequency Range	DC–14GHz
电压驻波比	≤ 1.06@DC–0.5GHz ≤ 1.14@ 0.5–4GHz ≤ 1.25@ 4–10GHz	VSWR	≤ 1.06@DC–0.5GHz ≤ 1.14@ 0.5–4GHz ≤ 1.25@ 4–10GHz
插入损耗 (f=GHz)	≤ 0.05x √ f dB	Insertion loss(f=GHz)	≤ 0.05x √ f dB
测试电压	1500V rms	Test Voltage	1500V rms
工作电压	500V rms	Work Voltage	500V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 0.4 mΩ Max; 外导体 : 1.5 mΩ Max.	Contact Resistance	Center Contact: 0.4 mΩ Max; Outer Contact: 1.5 mΩ Max.
射频泄漏	≥ 100 dB	Rf–Leakage	≥ 100 dB
三阶互调	≤ –155 dBc@2x20W	PIM 3rd	≤ –155 dBc@2x20W

机械性能	参数	Mechanical Data	Data
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	17~22Nm	Coupling Torque	17~22Nm
连接螺母保持力	≥ 450N	Coupling Nut Retention	≥ 450N
内导体保持力	轴向≥ 80N 径向≥ 0.2Nm	Center Contact Captivation	axial ≥ 80N radial ≥ 0.2Nm

材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀银 / 镀三元合金	Body	Brass	Silver Plated/ White Bronze Plated
连接螺母	黄铜	镀镍 / 镀三元合金	Coupling Nut	Brass	Nickel Plated/ White Bronze Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/ Beryllium Copper	Gold Plated/ Silver Plated
压接套管	紫铜 / 黄铜	镀银 / 镀三元合金	Crimp Ferrule	Copper/Brass	Silver Plated/ White Bronze Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	

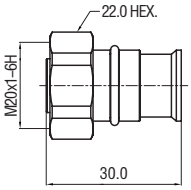
环境特性	参数	Environmental Data	Data
温度范围	–45℃ ~125℃	Temperature Range	–45℃ ~125℃
耐腐蚀性（盐雾）	MIL–STD–202 method 101. Condition B	Corrosion (Salt Spray)	MIL–STD–202 method 101. Condition B
振动	MIL–STD–202 method 204. Condition B	Vibration	MIL–STD–202 method 204. Condition B
冲击	MIL–STD–202 method 213. Condition G	Shock	MIL–STD–202 method 213. Condition G
气候等级	IIEC 60068 65/85/21 IEC 60068 65/165/21 PTFE Insulator	Climatic Class	IEC 60068 65/85/21 IEC 60068 65/165/21 PTFE Insulator

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

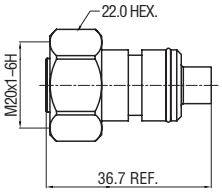
4.1–9.5

Straight Solder Plug



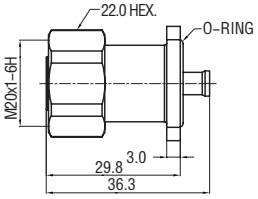
Part Number	50A4A15S–S12–001
Cable Group	1/2" SuperFlex Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

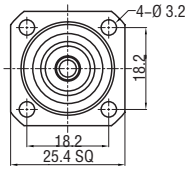
Straight Solder Plug



Part Number	50A4A15S–S03
Cable Group	RG401, .250"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

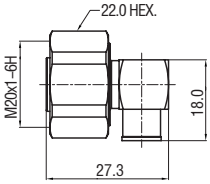
Straight Solder Plug

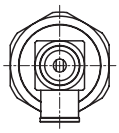




Part Number	50A4A15S–S02
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

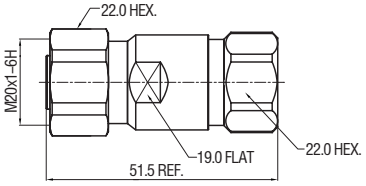
Right Angle Solder Plug





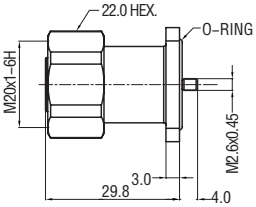
Part Number	50A4A11R–S14
Cable Group	1/4" SuperFlex Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

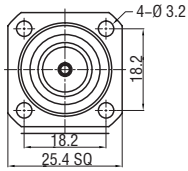
Straight Clamp Plug



Part Number	50A4A11S–L12
Cable Group	1/2" Cable
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

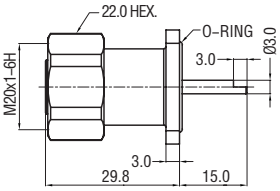
Straight Panel Mount Plug

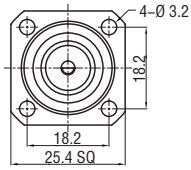




Part Number	50A4A55S-P01
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

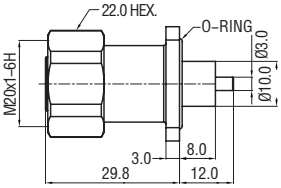
Straight Panel Mount Plug

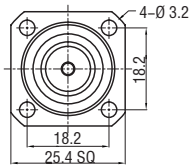




Part Number	50A4A55S-P01-001
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

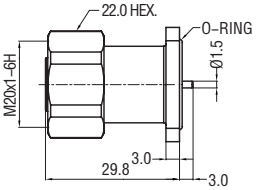
Straight Panel Mount Plug

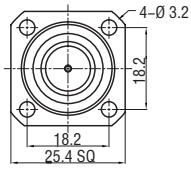




Part Number	50A4A55S-P01-002
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

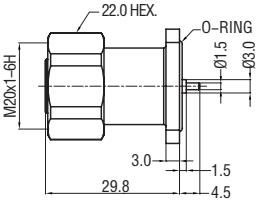
Straight Panel Mount Plug

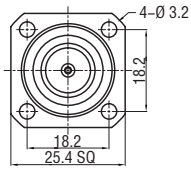




Part Number	50A4A55S-P01-003
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Panel Mount Plug

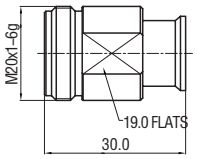


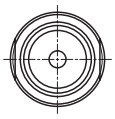


Part Number	50A4A55S-P01-004
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

4.1–9.5

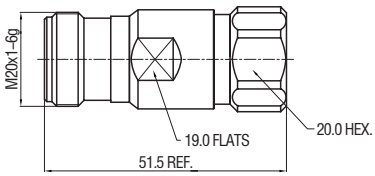
Straight Solder Jack





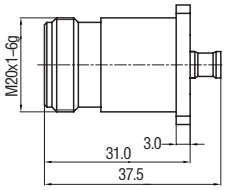
Part Number	50A4A15S–S12
Cable Group	1/2” SuperFlex Cable
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

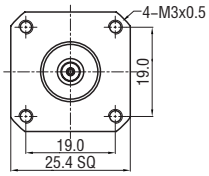
Straight Clamp Jack



Part Number	50A4B11S–L12
Cable Group	1/2” Cable
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

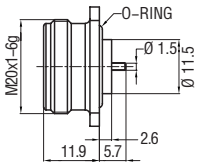
Straight Solder Jack

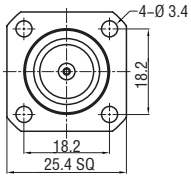




Part Number	50A4B15S–S02
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

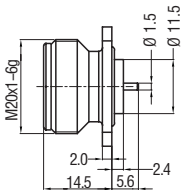
Straight Panel Mount Jack

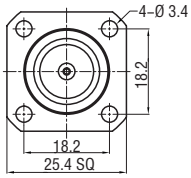




Part Number	50A4B55S–P11
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

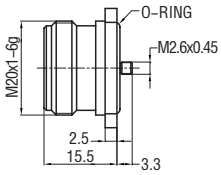
Straight Panel Mount Jack

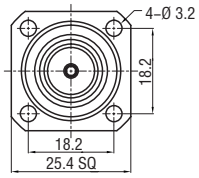




Part Number	50A4B55S–P12
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

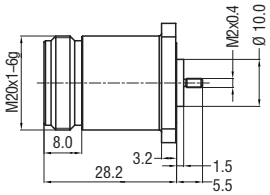
Straight Panel Mount Jack

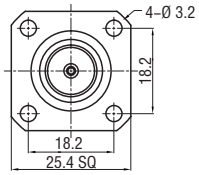




Part Number	50A4B55S-P13
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

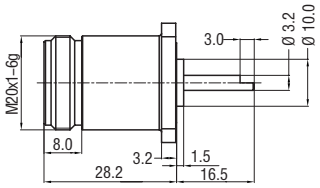
Straight Panel Mount Jack

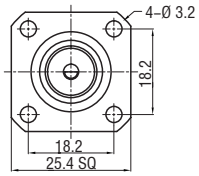




Part Number	50A4B55S-P04
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

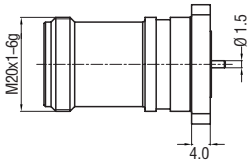
Straight Solder Jack

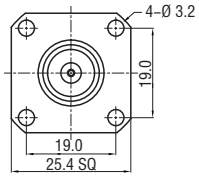




Part Number	50A4B55S-P04-001
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

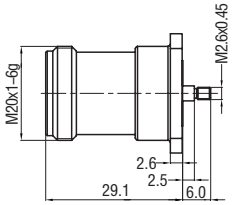
Straight Panel Mount Jack

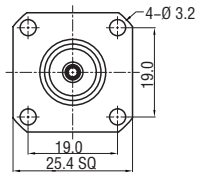




Part Number	50A4B55S-P04-002
Cable Group	-
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

Straight Panel Mount Jack





Part Number	50A4B55S-P22-004
Cable Group	-
Body	Brass, Tin-Nickel Plating
Center Contact	Phosphor Bronze, Silver Plating

射频同轴连接器

RF COAXIAL CONNECTORS

2.0–4.6

产品特点

- 频率可达 18GHz；
- VSWR(直式): ≤ 1.22 @18GHz;
- 优化后可接 1/4” 波纹电缆；
- 出色的 RL 和电气性能 ;
- 无论耦合装置如何都能有较低的 PIM；
- 小尺寸，法兰高度 12.7mm；
- 保护接触区域；
- 紧凑的模块，安装灵活。

Product Features

- Frequency range up to 18GHz;
- VSWR(straight connector): ≤ 1.22 @18GHz;
- Optimized for 1/4” flexible cable；
- Excellent return loss and electrical performance；
- Low PIM independent of coupling mechanism；
- Small size , flange height of 12.7mm;
- Protection of contact areas;
- Compact modules，flexibility in installation.

应用范围

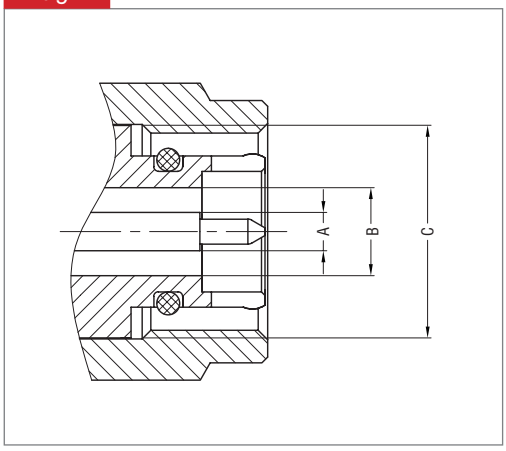
- 小基站；
- 低功耗基站；
- 远程无线电；
- 分布式天线系统；
- 建筑结构；
- 测试 & 测量；
- 电信系统。

Application

- Small Cell；
- Low Power Base Stations；
- Remote Radios；
- Distributed Antenna Systems ；
- In-building Architecture；
- Test and Measurement；
- Telecom.

介面尺寸

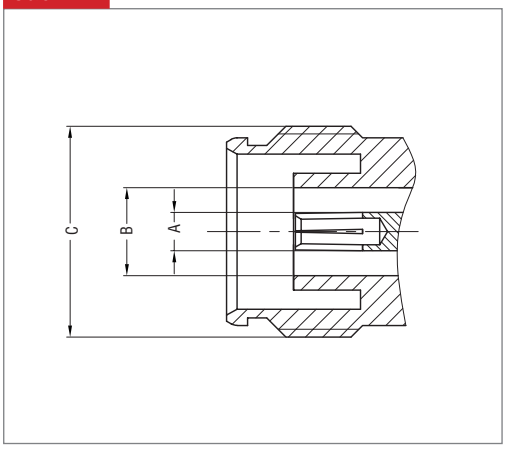
Plug



NO.	DIMENSION	
	mm	inch
A	2.00 Nom.	0.079 Nom.
B	4.60 Nom.	0.181 Nom.
C	7/16–28 UNEF–2B	7/16–28 UNEF–2B

Interface Dimension

Jack



NO.	DIMENSION	
	mm	inch
A	2.00 Nom.	0.079 Nom.
B	4.60 Nom.	0.181 Nom.
C	7/16–28 UNEF–2A	7/16–28 UNEF–2A

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
频段范围	DC-18GHz	Frequency Range	DC-18GHz
电压驻波比	≤ 1.05@DC-4GHz ≤ 1.10@ 4-10GHz ≤ 1.22@ 10-18GHz	VSWR	≤ 1.05@DC-4GHz ≤ 1.10@ 4-10GHz ≤ 1.22@ 10-18GHz
插入损耗 (f=GHz)	≤ 0.05x √ f dB	Insertion loss(f=GHz)	≤ 0.05x √ f dB
测试电压	1500V rms	Test Voltage	1500V rms
工作电压	500V rms	Work Voltage	500V rms
绝缘阻抗	≥ 5000MΩ	Insulation Resistance	≥ 5000MΩ
接触电阻	内导体 : 1.5 mΩ Max; 外导体 : 1.0 mΩ Max.	Contact Resistance	Center Contact: 1.5 mΩ Max; Outer Contact: 1.0 mΩ Max.

机械性能	参数	Mechanical Data	Data
插拔次数	≥ 500	Mating Cycles	≥ 500
连接力矩	1.7Nm Max; 建议: 0.46~0.69Nm	Coupling Torque	1.7Nm Max; Rec. 0.46~0.69Nm
连接螺母保持力	≥ 450N	Coupling Nut Retention	≥ 450N
内导体保持力	轴向≥ 27N 径向≥ 0.1Nm	Center Contact Captivation	axial ≥ 27N radial ≥ 0.1Nm

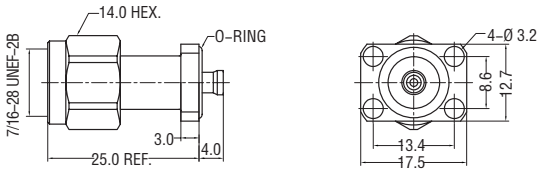
材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀银 / 镀三元合金	Body	Brass	Silver Plated/ White Bronze Plated
连接螺母	黄铜	镀三元合金	Coupling Nut	Brass	White Bronze Plated
内导体	黄铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Beryllium Copper	Gold Plated/ Silver Plated
压接套管	紫铜 / 黄铜	镀银 / 镀三元合金	Crimp Ferrule	Copper/Brass	Silver Plated/ White Bronze Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

环境特性	参数	Environmental Data	Data
温度范围	-45℃ ~+125℃	Temperature Range	-45℃ ~+125℃
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B	Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B
振动	MIL-STD-202 method 204. Condition B	Vibration	MIL-STD-202 method 204. Condition B
冲击	MIL-STD-202 method 213. Condition G	Shock	MIL-STD-202 method 213. Condition G
热冲击	MIL-STD-202 method 107. Condition B	Thermal Shock	MIL-STD-202 method 107. Condition B
抗潮湿性	MIL-STD-202 method 106	Moisture Resistance	MIL-STD-202 method 106

注：这些特性具有典型代表性，不适用于所有连接器。

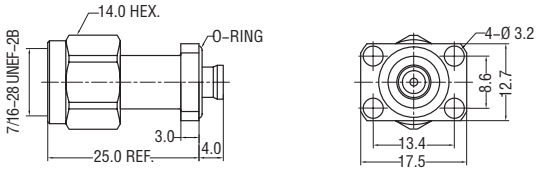
Note: These characteristics are typical and may not apply to all connectors.

Straight Solder Plug



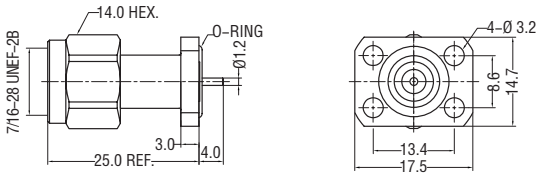
Part Number	50A2A15S–S01
Cable Group	RG405, .086"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Plug



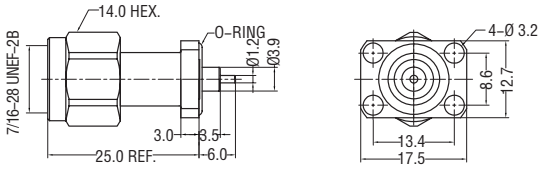
Part Number	50A2A15S–S02
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Panel Mount Plug



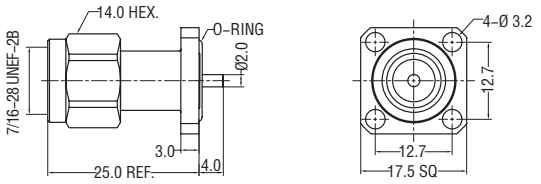
Part Number	50A2A55S–P01
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Panel Mount Plug



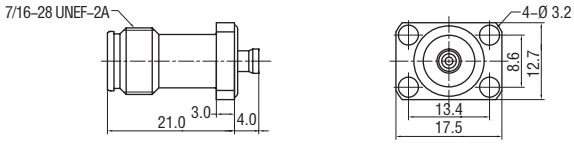
Part Number	50A2A55S–P02
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Panel Mount Plug



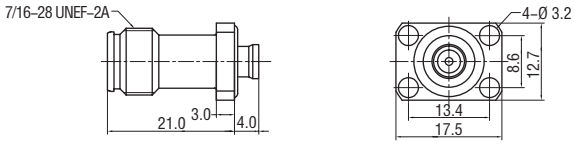
Part Number	50A2A55S–P03
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

Straight Solder Jack



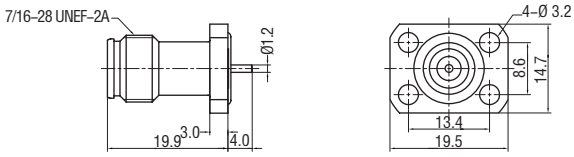
Part Number	50A2B15S-S01
Cable Group	RG405, .086"
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Solder Jack



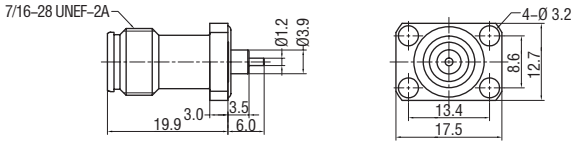
Part Number	50A2B15S-S02
Cable Group	RG402, .141"
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



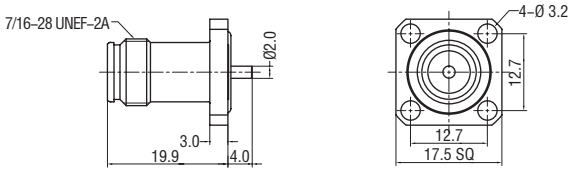
Part Number	50A2B55S-P01
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

Straight Panel Mount Jack



Part Number	50A2B55S-P02
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

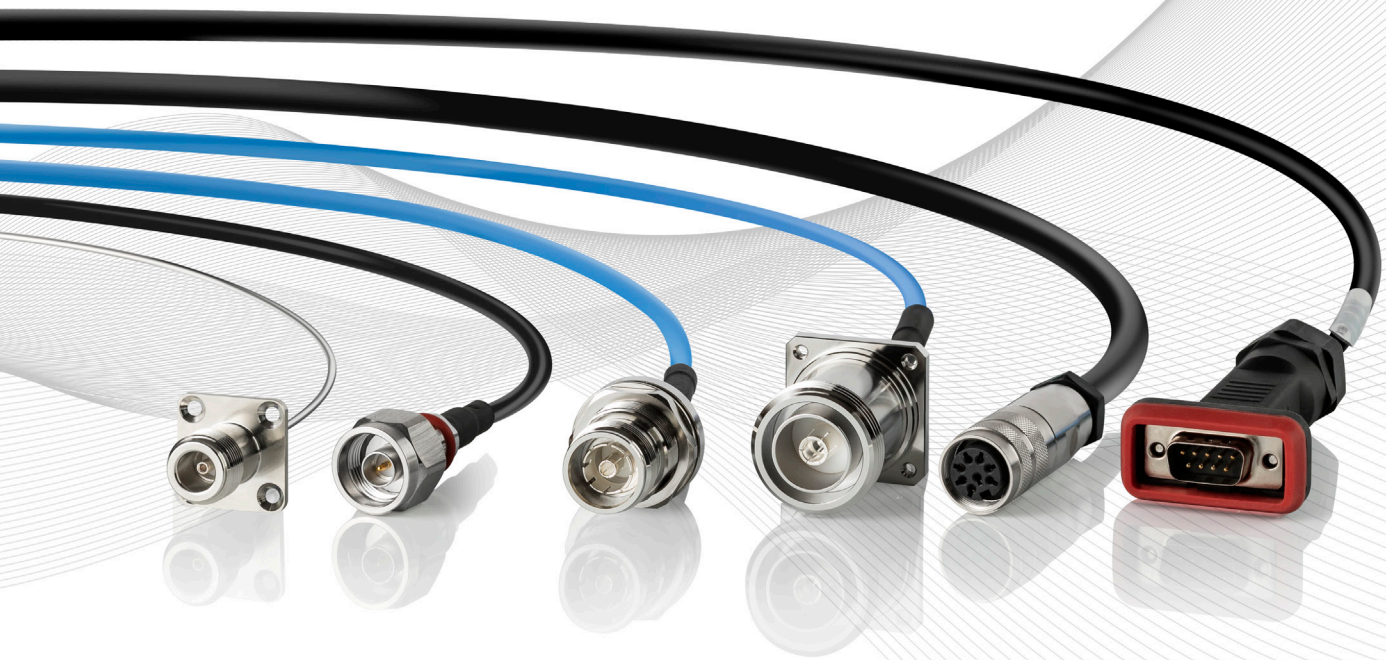
Straight Panel Mount Jack



Part Number	50A2B55S-P03
Cable Group	–
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

线缆组件

CABLE ASSEMBLY



线缆组件

CABLE ASSEMBLIES

国昌科技柔性、半柔及半刚线缆组件在最大相位和稳定振幅条件下，最小程度地减少反射和传输损失。

我们的线缆组件可以满足您的特殊要求。

Guochang's flexible, semi-flexible and semi-rigid cable assemblies minimize reflection and transmission losses at maximum phase and stable amplitude.

Our cable assemblies meet your specific requirements.

柔性线缆组件

柔性线缆组件广泛应用于高达 18GHz 射频频段范围内；

半柔线缆组件

半柔线缆组件应用于高达 26.5GHz 频率；

半刚线缆组件

半刚线缆组件应用于高达 26.5GHz 频率。

Flexible Cable Assembly

Flexible RF Cable Assembly up to 18GHz for broad range of radio frequency applications

Semi-Flexible Cable Assembly

Semi-Flexible Cable Assembly up to 26.5GHz

Semi-Rigid Cable Assembly

Semi-Rigid Cable Assembly up to 26.5GHz

线缆选型指南

CABLE SELECTION GUIDE

PTFE 介质线缆

Solid PTFE Dielectric Cable

线缆类型 CABLE TYPE	阻抗 IMPEDANCE	频率范围 FREQUENCY RANGE	衰减 ATTENUATION (M)	线缆外径 CABLE O.D.	线缆保持力 CABLE RETENTION FORCE
RG178/U	50Ω	3GHz	2.65dB	1.8 mm	3Kg.f
RG188/U	50Ω	3GHz	1.53dB	2.7 mm	5Kg.f
RG316/U	50Ω	3GHz	1.65dB	2.6 mm	5Kg.f
RG142/U	50Ω	5GHz	1.05dB	5.0 mm	25Kg.f
RG400/U	50Ω	5GHz	1.18dB	5.0 mm	25Kg.f
RG393/U	50Ω	5GHz	0.64dB	10.0 mm	40Kg.f

PE 介质线缆

PE Dielectric Cable

线缆类型 CABLE TYPE	阻抗 IMPEDANCE	频率范围 FREQUENCY RANGE	衰减 ATTENUATION (M)	线缆外径 CABLE O.D.	线缆保持力 CABLE RETENTION FORCE
RG174/U	50Ω	1GHz	0.90dB	2.6 mm	5Kg.f
RG58/U	50Ω	1GHz	0.50dB	5.0 mm	25Kg.f
RG223/U	50Ω	11GHz	1.78dB	5.0 mm	25Kg.f
RG214/U	50Ω	11GHz	1.11dB	10.8 mm	40Kg.f
LMR100	50Ω	5.8GHz	2.10dB	2.8 mm	5Kg.f
LMR195	50Ω	5.8GHz	0.93dB	5.0 mm	20Kg.f
LMR200	50Ω	5.8GHz	0.87dB	5.0 mm	20Kg.f
LMR240	50Ω	5.8GHz	0.67dB	6.1 mm	25Kg.f
LMR400	50Ω	5.8GHz	0.36dB	10.3 mm	40Kg.f
LMR600	50Ω	5.8GHz	0.24dB	15.0 mm	100Kg.f
RG59/U	75Ω	1GHz	0.27dB	6.1 mm	25Kg.f
RG6/U	75Ω	1GHz	0.21dB	7.1 mm	25Kg.f

半柔线缆

Semi-Flexible CABLE

线缆类型 CABLE TYPE	阻抗 IMPEDANCE	频率范围 FREQUENCY RANGE	衰减 ATTENUATION (M)	线缆外径 CABLE O.D.	线缆保持力 CABLE RETENTION FORCE
.047 "	50Ω	18GHz	6.03dB	1.2 mm	3Kg.f
.086 "	50Ω	18GHz	3.73dB	2.1 mm	10Kg.f
.141 "	50Ω	18GHz	2.22dB	3.5 mm	10Kg.f
.250 "	50Ω	18GHz	1.42dB	6.3 mm	30Kg.f

半刚线缆

Semi-Rigid CABLE

线缆类型 CABLE TYPE	阻抗 IMPEDANCE	频率范围 FREQUENCY RANGE	衰减 ATTENUATION (M)	线缆外径 CABLE O.D.	线缆保持力 CABLE RETENTION FORCE
.047 "	50Ω	18GHz	6.03dB	1.2 mm	3Kg.f
RG405	50Ω	18GHz	3.73dB	2.1 mm	10Kg.f
RG402	50Ω	18GHz	2.22dB	3.5 mm	30Kg.f
RG401	50Ω	10GHz	0.89dB	6.3 mm	90Kg.f

连接器选型指南

CONNECTOR SELECTION GUIDE

Cable Assembly		Flexible																	
Connector Series	Connector Type	Solid PTFE						PE Dielectric											
		RG 178	RG 188	RG 316	RG 142	RG 400	RG 393	RG 174	RG 58	RG 223	RG 214	LMR 100	LMR 195	LMR 200	LMR 240	LMR 400	LMR 600	RG 59	RG 6
7/16 (DIN)	Plug ST				○	○	○		○	○	○			○	○	○	○		
	Plug RA				○	○	○		○	○	○			○	○	○	○		
	Jack ST				○	○	○		○	○	○			○	○	○	○		
	Jack BH				○	○	○		○	○	○			○	○	○	○		
4.3–10 (Mini DIN)	Plug ST				○	○	○		○	○	○			○	○	○	○		
	Plug RA				○	○	○		○	○	○			○	○	○	○		
	Jack ST				○	○	○		○	○	○			○	○	○	○		
	Jack BH				○	○	○		○	○	○			○	○	○	○		
4.1–9.5 (Mini DIN)	Plug ST				○	○	○		○	○	○			○	○	○	○		
	Plug RA				○	○	○		○	○	○			○	○	○	○		
	Jack ST				○	○	○		○	○	○			○	○	○	○		
	Jack BH				○	○	○		○	○	○			○	○	○	○		
N	Plug ST		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Plug RA		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Jack ST		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Jack BH		○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
TNC	Plug ST	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Plug RA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Jack ST	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Jack BH	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
BNC	Plug ST	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Plug RA	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Jack ST	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
	Jack BH	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○		
SMA	Plug ST	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
	Plug RA	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
	Jack ST	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
	Jack BH	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
SMB	Plug ST	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
	Plug RA	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
	Jack ST	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
	Jack BH	○	○	○	○	○	○	○	○	○		○	○	○	○	○	○		
SMP	Plug ST	○	○	○				○											
	Plug RA	○	○	○				○											
	Jack ST	○	○	○				○											
	Jack BH	○	○	○				○											
MCX	Plug ST	○	○	○				○											
	Plug RA	○	○	○				○											
	Jack ST	○	○	○				○											
	Jack BH	○	○	○				○											
MMCX	Plug ST	○	○	○				○											
	Plug RA	○	○	○				○											
	Jack ST	○	○	○				○											
	Jack BH	○	○	○				○											
F	Plug ST																	○	○
	Jack BH																	○	○

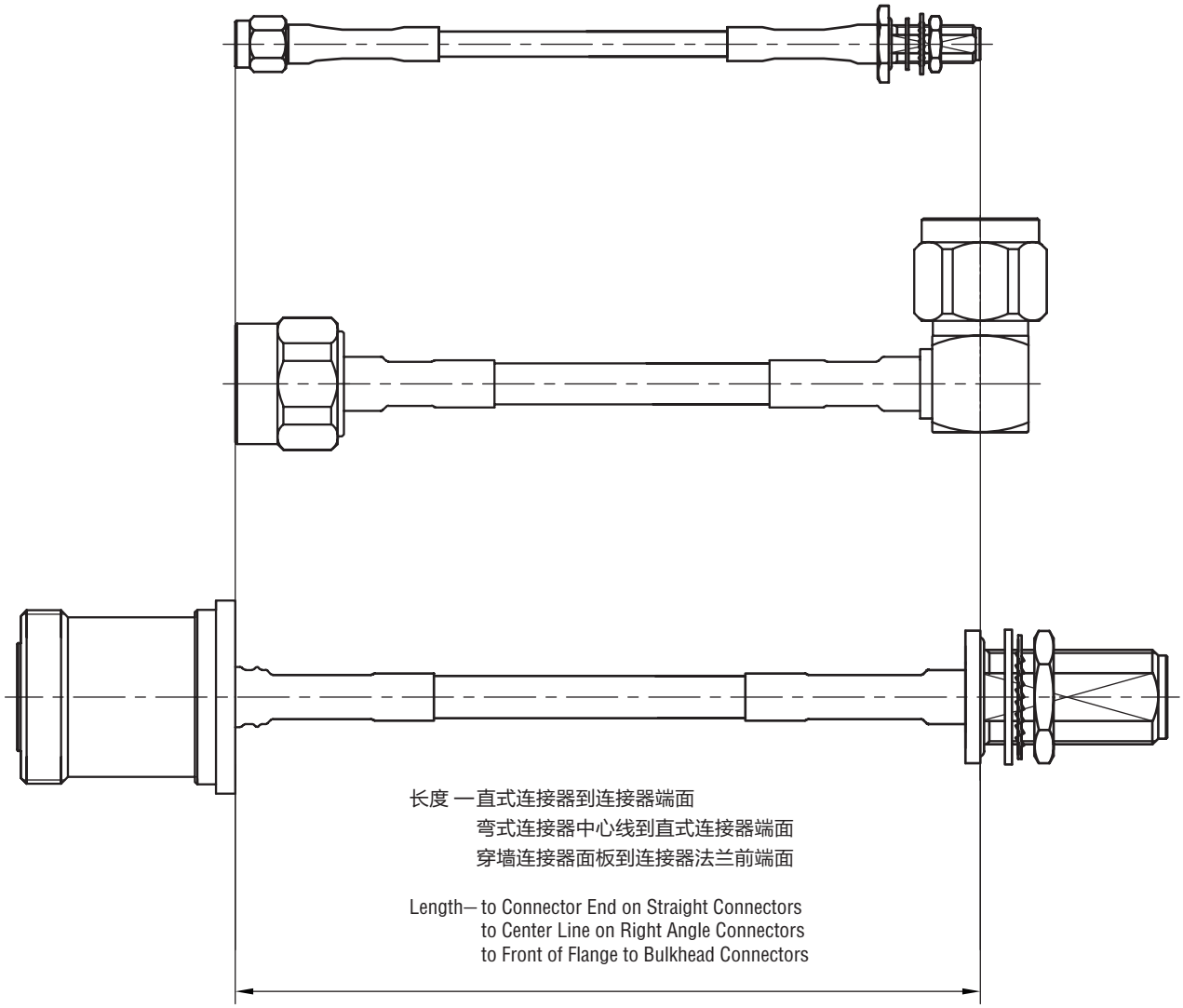
连接器选型指南

CONNECTOR SELECTION GUIDE

Cable Assembly		Semi-Flexible				Semi-Rigid			
Connector Series	Connector Type	Solid PTFE				Solid PTFE			
		.047"	.086"	.141"	.250"	.047"	RG405	RG402	RG401
7/16 (DIN)	Plug ST		○	○	○		○	○	○
	Plug RA		○	○	○		○	○	○
	Jack ST		○	○	○		○	○	○
	Jack BH		○	○	○		○	○	○
4.3-10 (Mini DIN)	Plug ST		○	○	○		○	○	○
	Plug RA		○	○	○		○	○	○
	Jack ST		○	○	○		○	○	○
	Jack BH		○	○	○		○	○	○
4.1-9.5 (Mini DIN)	Plug ST		○	○	○		○	○	○
	Plug RA		○	○	○		○	○	○
	Jack ST		○	○	○		○	○	○
	Jack BH		○	○	○		○	○	○
N	Plug ST		○	○	○		○	○	○
	Plug RA		○	○	○		○	○	○
	Jack ST		○	○	○		○	○	○
	Jack BH		○	○	○		○	○	○
TNC	Plug ST		○	○	○		○	○	○
	Plug RA		○	○	○		○	○	○
	Jack ST		○	○	○		○	○	○
	Jack BH		○	○	○		○	○	○
BNC	Plug ST		○	○	○		○	○	○
	Plug RA		○	○	○		○	○	○
	Jack ST		○	○	○		○	○	○
	Jack BH		○	○	○		○	○	○
SMA	Plug ST	○	○	○	○	○	○	○	○
	Plug RA	○	○	○	○	○	○	○	○
	Jack ST	○	○	○	○	○	○	○	○
	Jack BH	○	○	○	○	○	○	○	○
SMB	Plug ST		○				○		
	Plug RA		○				○		
	Jack ST		○				○		
	Jack BH		○				○		
SMP	Plug ST	○	○	○		○	○	○	
	Plug RA	○	○	○		○	○	○	
	Jack ST	○	○	○		○	○	○	
	Jack BH	○	○	○		○	○	○	
MCX	Plug ST		○	○			○	○	
	Plug RA		○	○			○	○	
	Jack ST		○	○			○	○	
	Jack BH		○	○			○	○	
MMCX	Plug ST		○	○			○	○	
	Plug RA		○	○			○	○	
	Jack ST		○	○			○	○	
	Jack BH		○	○			○	○	
F	Plug ST								
	Jack BH								

线缆组件订单格式

CABLE ASSEMBLY ORDER FORM



连接器 1 N 型公头	连接器 2 N 型母头	线缆种类 RG142/U	线缆长度 1000 MM
N(M)	**N(F)**	**RG 142/U**	**L1000**
CONNECTOR 1 N MALE	CONNECTOR 2 N FEMALE	CABLE TYPE RG142/U	CABLE LENGTH 1000 MM

跳线

JUMPER CABLE

波纹电缆组件的外导体由波纹管（螺旋或环状绕组）构成。这种结构可实现完美屏蔽并具有一定的灵活性，同时可保持较大的弯曲半径。这些电缆具有较高的性能水平，能够用于户外长距离传输线。

The outer conductor of Corrugated Cable Assemblies is constructed of a corrugated tube (spiral or ringed winding). This construction allows perfect shielding and some flexibility while maintaining a large bending radius. The high performance level of these cables enable them to be used in outdoor long length transmission lines.

产品特点

- VSWR: 1.10 Max. @2.7GHz;
- 较好的弯曲半径；
  ½”超柔线缆：30mm;
  ½”普通线缆（单次弯曲）：70mm;
  ½”普通线缆（多次弯曲）：125mm;
- 出色的三阶互调；
- 更加简易、快速、可靠安装；
- 防水等级依照 IP67/ IP68（配对连接器）;
- 接头注塑增加了机械保护能力。

Product Features

- VSWR: 1.10 Max. @2.7GHz；
- Low bending radius;
  30 mm for ½” Hiflex
  70 mm for ½” Standard for single bending
  (125 mm for repeated bending)
- Low level of 3rd order intermodulation products;
- Easy, fast and reliable installation;
- Water tightness according to IP67/ IP68 (mated connectors);
- The overmolding of the connector provides an additional mechanical protection.

应用范围

- 基站；
- 天线；
- 测试 & 测量；
- 电信系统。

Application

- Base Stations；
- Antenna；
- Test and Measurement；
- Telecom.

线缆选型指南
CABLE SELECTION GUIDE

波纹铜管线缆
Corrugated Copper Tube CABLE

线缆类型 CABLE TYPE	阻抗 IMPEDANCE	频率范围 FREQUENCY RANGE	衰减 ATTENUATION (M)	线缆外径 CABLE O.D.	线缆保持力 CABLE RETENTION FORCE
1/4” S	50Ω	3GHz	0.33dB	7.5 mm	60Kg.f
3/8” S	50Ω	3GHz	0.25dB	10.2 mm	60Kg.f
1/2” S	50Ω	3GHz	0.21dB	13.4 mm	110Kg.f
7/8” S	50Ω	3GHz	0.08dB	27.5 mm	102Kg.f
1/4”	50Ω	3GHz	0.26dB	9.1 mm	53Kg.f
3/8”	50Ω	3GHz	0.19dB	11.2 mm	53Kg.f
1/2”	50Ω	3GHz	0.13dB	15.7 mm	110Kg.f
7/8”	50Ω	3GHz	0.08dB	27.7 mm	147Kg.f

连接器选型指南
CONNECTOR SELECTION GUIDE

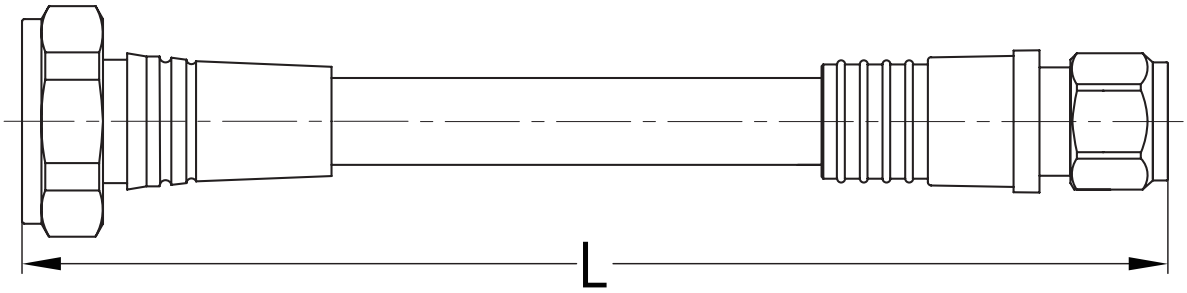
Cable Assembly		Corrugated Copper Tube CABLE							
Connector Series	Connector Type	1/4” S	3/8” S	1/2” S	7/8” S	1/4”	3/8”	1/2”	7/8”
7/16 (DIN)	Male ST	○	○	○	○	○	○	○	○
	Male RA	○	○	○	○	○	○	○	○
	Female ST	○	○	○	○	○	○	○	○
	Male ST	○	○	○	○	○	○	○	○
4.3–10 (Mini DIN)	Male RA	○	○	○	○	○	○	○	○
	Female ST	○	○	○	○	○	○	○	○
	Male ST	○	○	○	○	○	○	○	○
	Male RA	○	○	○	○	○	○	○	○
4.1–9.5 (Mini DIN)	Female ST	○	○	○	○	○	○	○	○
	Male ST	○	○	○	○	○	○	○	○
	Male RA	○	○	○	○	○	○	○	○
	Female ST	○	○	○	○	○	○	○	○
N	Plug ST	○	○	○	○	○	○	○	○
	Plug RA	○	○	○	○	○	○	○	○
	Jack ST	○	○	○	○	○	○	○	○
	Jack BH	○	○	○	○	○	○	○	○

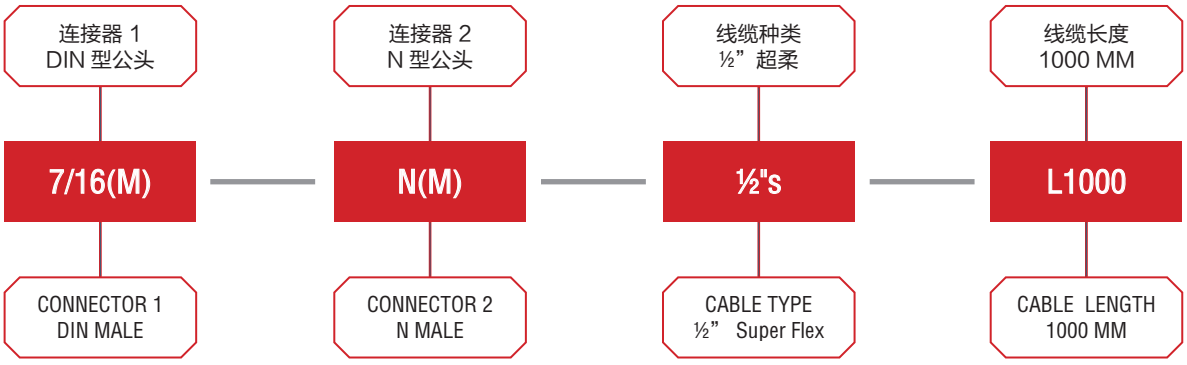
*7/16(DIN) ,4.3–10,4.1–9.5 PIM3rd ≤ –158dBc;
*N PIM3rd ≤ –155dBc

技术参数

Technical Specification

电气性能	参数		Electrical Data	Data	
阻抗	50 Ω		Impedance	50 Ω	
频段范围	DC–2.7GHz		Frequency Range	DC–2.7GHz	
电压驻波比	≤ 1.10		VSWR	≤ 1.10	
介质耐电压	≥ 1500V DC		Dielectric Withstanding Voltage	≥ 1500V DC	
介质阻抗	≥ 5000MΩ		Dielectric Resistance	≥ 5000MΩ	
三阶互调	≤ –158 dBc@2x20W		PIM 3rd	≤ –158 dBc@2x20W	
机械性能	**参数**		**Mechanical Data**	**Data**	
插拔次数	≥ 500		Mating Cycles	≥ 500	
材料特性	**参数**		**Material Data**	**Data**	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜	镀银 / 镀三元合金	Body	Brass	Silver Plated/ White Bronze Plated
连接螺母	黄铜	镀镍 / 镀三元合金	Coupling Nut	Brass	Nickel Plated/ White Bronze Plated
内导体	黄铜 / 磷铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze	Gold Plated/ Silver Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O–Ring	Silicone Rubber	
环境特性	**参数**		**Environmental Data**	**Data**	
温度范围	–40℃ ~+85℃		Temperature Range	–40℃ ~+85℃	
耐腐蚀性（盐雾）	96 小时（5% 盐浓度）		Corrosion (Salt Spray)	96 hours (5% Salt Concentration)	
防水性	IP67/IP68（配对接头）		Vibration	IP67/IP68 （Mated Connectors）	
RoHS	EU Directive 2002/95/EC		RoHS	EU Directive 2002/95/EC	



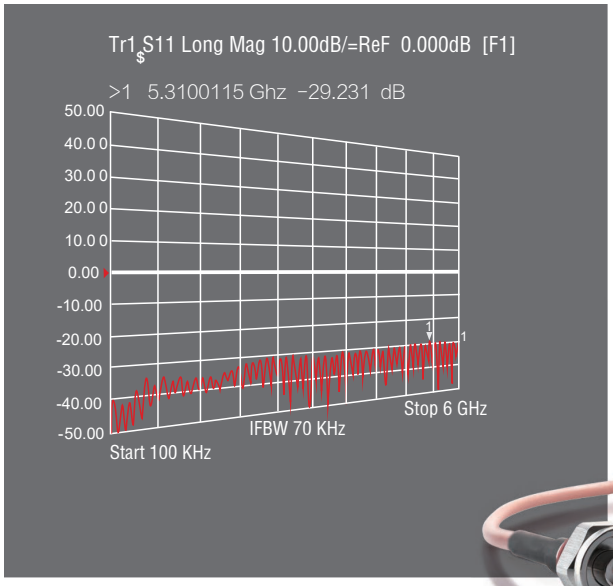


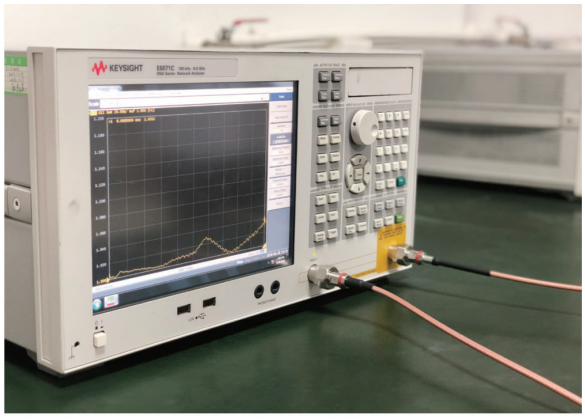
测试线缆

TEST CABLE

我们为射频测试仪器所设计的端到端测试线缆和连接器可达到卓越的性能要求，得以解决客户关注的问题。针对高精密度和高柔韧性的测试和测量应用是极佳的解决方案。

We fully design end to end TestPro cables and connectors to reach high performance requirements to address customers concerns when doing RF measurements. The TestPro range is the perfect solution for Test and Measurement applications where high precision quality and high flexibility .





稳定性
Stability

100% 测试
100% tested

出色的电气性能
Excellent electrical parameters

精密连接器
Precision Connector

持久性
High mating cycles

连接器 Connector		频率 Frequency	驻波比 VSWR
Connector 1	Connector 2		
N Male	N Male	DC–6GHz	1.09 Max.
N Male	N Male	DC–18GHz	1.20 Max.
N Male	SMA Male	DC–6GHz	1.09 Max.
N Male	SMA Male	DC–18GHz	1.20 Max.
SMA Male	SMA Male	DC–18GHz	1.20 Max.
2.92 Male	2.92 Male	DC–40GHz	1.30 Max.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
阻抗	50 Ω	Impedance	50 Ω
工作电压	335V rms	Work Voltage	335V rms
绝缘阻抗	⩾ 5000MΩ	Insulation Resistance	⩾ 5000MΩ
机械性能	**参数**	**Mechanical Data**	**Data**
插拔次数	⩾ 1000	Mating Cycles	⩾ 1000
连接力矩	0.8~1.1Nm	Coupling Torque	0.8~1.1Nm
连接螺母保持力	⩾ 270N	Coupling Nut Retention	⩾ 270N

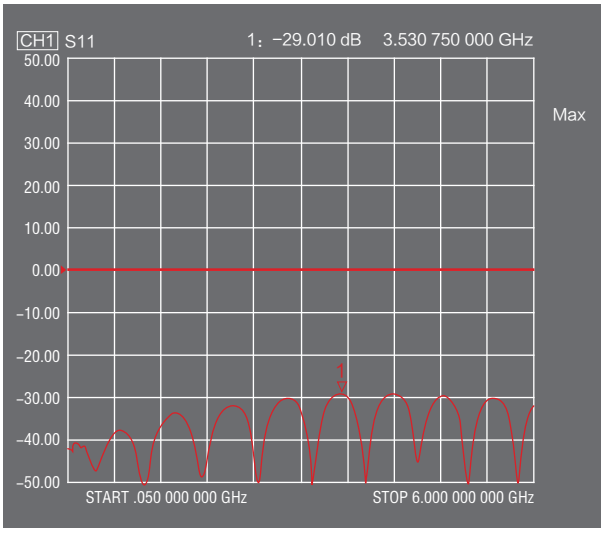
材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 不锈钢	镀三元合金 / 钝化	Body	Brass/Stainless Steel	White Bronze Plated/ Passivation
连接螺母	黄铜 / 不锈钢	镀三元合金 / 钝化	Coupling Nut	Brass/Stainless Steel	White Bronze Plated/ Passivation
内导体	黄铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Beryllium Copper	Gold Plated/ Silver Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

环境特性	参数	Environmental Data	Data
温度范围	-55℃ ~+125℃	Temperature Range	-55℃ ~+125℃
耐腐蚀性（盐雾）	96 小时（5% 盐浓度）	Corrosion (Salt Spray)	96 hours (5% Salt Concentration)
RoHS	EU Directive 2002/95/EC	RoHS	EU Directive 2002/95/EC

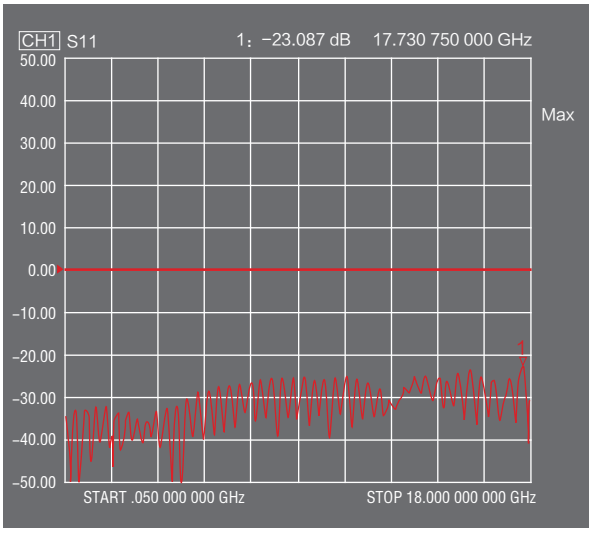
性能

Performance

N Plug To N Plug with RG142

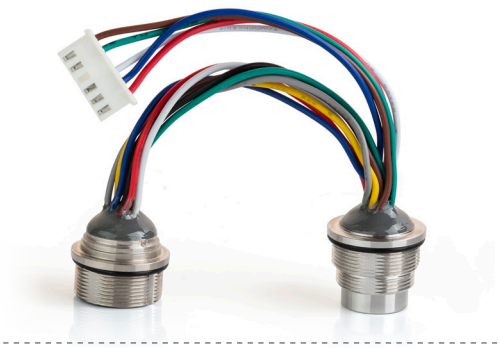


N Plug To SMA Plug with SF142



AISG 线缆

AISG CABLE



RC 低频线缆组件

RC Low Frequency Cable Assembly

产品特点

- 耐盐雾腐蚀；
- 防护等级达 IP67；
- 无卤素，抗紫外线。

Product Features

- Salt Spray Resistant;
- Conform to IP 67;
- No halogen and UV Resistance.

应用范围

- 遥控电调顷角天线；
- 塔顶放大器；
- 测试 & 测量；
- 数据处理设备 ；
- 电信系统。

Application

- RET Control Cable；
- TMA ；
- Test and Measurement；
- Data Processing Equipment;
- Telecom.

技术参数

Technical Specification

电气性能	参数		Electrical Data	Data	
额定电压	300 V		Rating Voltage	300 V	
耐电压	1500 V		Withstanding Voltage	1500 V	
额定电流	5 A		Rating Currency	5 A	
绝缘阻抗	≥ 100MΩ		Insulation Resistance	≥ 100MΩ	
接触电阻	≤ 5.0 mΩ		Contact Resistance	≤ 5.0 mΩ	
机械性能	**参数**		**Mechanical Data**	**Data**	
插拔次数	≥ 500		Mating Cycles	≥ 500	
连接力矩	1.1Nm		Coupling Torque	1.1Nm	
连接螺母保持力	≥ 350N		Coupling Nut Retention	≥ 350N	
材料特性	**参数**		**Material Data**	**Data**	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 锌合金	镀镍 / 镀三元合金	Body	Brass/Zinc Die Cast	Nickel Plated/ White Bronze Plated
连接螺母	黄铜	镀镍 / 镀三元合金	Coupling Nut	Brass	Nickel Plated/ White Bronze Plated
内导体	黄铜 / 磷铜 / 铍铜	镀金	Center Contact	Brass/Phosphor Bronze/ Beryllium Copper	Gold Plated
绝缘体	热塑性材料		Insulator	Thermoplastic material	
环境特性	**参数**		**Environmental Data**	**Data**	
气候层序	IEC 60068-2-14		Climatic Sequence Test Method	IEC 60068-2-14	
耐腐蚀性（盐雾）	IEC 60068-2-11, Test Condition Ka		Corrosion Test Method	IEC 60068-2-11, Test Condition Ka	
工作温度	-40 ℃ to +70℃ (-40° F to +158° F)		Operating Temperature	-40 ℃ to +70℃ (-40° F to +158° F)	
防护等级	IEC 60529:2001, IP67		Ingress Protection Test Method	IEC 60529:2001, IP67	

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

AISG 线缆

AISG CABLE

RC 低频线缆组件

RC Low Frequency Cable Assembly

RET control cable with male DB9 and female AISG connector

AISG DB9 Cable

- 为 RET 系统零件提供数据和电源；
- 直接连接 RET 致动器和 RRH（射频拉远头）及 DB9 接头

- Feeds data and power to RET system components;
- Directly connects RET actuator with RRH (Remote Radio Heads) with DB9 connector.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
EU 认证	CB/CE	EU Certification	CB/ CE
协议	AISG 1.1 / AISG 2.0	Protocol	AISG 1.1 /AISG 2.0
电压	≤ 300 V	Voltage	≤ 300 V
机械性能	**参数**	**Mechanical Data**	**Data**
AISG 接头 A	8–pin DIN 直式母头	AISG Connector A	8–pin DIN Female straight
AISG 接头 A 标准	IEC 60130–9	AISG Connector A Standard	IEC 60130–9
接头 B	9–pin D–sub 公头	Connector B	9–pin D–sub Male
数据导体种类	0.24 mm² (24 AWG) 双绞线	Data Conductor Type	0.24 mm² (24 AWG) twisted pair
电源导体种类	0.82 mm² (18 AWG) 标准线	Power Conductor Type	0.82 mm² (18 AWG) stranded
颜色	黑色	Color	Black
环境特性	**参数**	**Environmental Data**	**Data**
气候层序	IEC 60068–2–14	Climatic Sequence Test Method	IEC 60068–2–14
耐腐蚀性（盐雾）	IEC 60068–2–11, Test Condition Ka	Corrosion Test Method	IEC 60068–2–11, Test Condition Ka
工作温度	–40℃ to +70℃ (–40˚ F to +158˚ F)	Operating Temperature	–40℃ to +70℃ (–40˚ F to +158˚ F)
抗紫外线	IEC 60068–2–5, Test Condition B	UV Resistance Test Method	IEC 60068–2–5, Test Condition B
防护等级	IEC 60529:2001, IP67	Ingress Protection Test Method	IEC 60529:2001, IP67

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

AISG 线缆

AISG CABLE

RC 低频线缆组件

RC Low Frequency Cable Assembly

RET control cable with male DB15 and female AISG connector

AISG DB15 Cable

- 为 RET 系统零件提供数据和电源；
- 直接连接 RET 致动器和 RRH（射频拉远头）及 DB15 接头

- Feeds data and power to RET system components;
- Directly connects RET actuator with RRH (Remote Radio Heads) with DB15 connector.

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
EU 认证	CB/CE	EU Certification	CB/CE
协议	AISG 1.1 /AISG 2.0	Protocol	AISG 1.1 /AISG 2.0
电压	≤ 300 V	Voltage	≤ 300 V
机械性能	**参数**	**Mechanical Data**	**Data**
AISG 接头 A	8-pin DIN 直式母头	AISG Connector A	8-pin DIN Female straight
AISG 接头 A 标准	IEC 60130-9	AISG Connector A Standard	IEC 60130-9
接头 B	15-pin D-sub 公头	Connector B	15-pin D-sub Male
数据导体种类	0.24 mm² (24 AWG) 双绞线	Data Conductor Type	0.24 mm² (24 AWG) twisted pair
电源导体种类	0.75 mm² (19 AWG) 标准线	Power Conductor Type	0.75 mm² (19 AWG) stranded
颜色	黑色	Color	Black
环境特性	**参数**	**Environmental Data**	**Data**
气候层序	IEC 60068-2-14	Climatic Sequence Test Method	IEC 60068-2-14
耐腐蚀性（盐雾）	IEC 60068-2-11, Test Condition Ka	Corrosion Test Method	IEC 60068-2-11, Test Condition Ka
工作温度	-40℃ to +70℃ (-40° F to +158° F)	Operating Temperature	-40℃ to +70℃ (-40° F to +158° F)
抗紫外线	IEC 60068-2-5, Test Condition B	UV Resistance Test Method	IEC 60068-2-5, Test Condition B
防护等级	IEC 60529:2001, IP67	Ingress Protection Test Method	IEC 60529:2001, IP67

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

AISG 线缆

AISG CABLE

AISG RET Control Cable
AISG Standard Cable

- 为 RET 系统零件提供数据和电源；
- 满足 AISG 和 RoHS 标准。

- Feeds data and power to RET system components
- AISG and RoHS compliant

技术参数
Technical Specification

电气性能	参数	Electrical Data	Data
EU 认证	CB/CE	EU Certification	CB/ CE
协议	AISG 1.1 / AISG 2.0	Protocol	AISG 1.1 /AISG 2.0
电压	≤ 300 V	Voltage	≤ 300 V
机械性能	**参数**	**Mechanical Data**	**Data**
AISG 接头 A	8–pin DIN 直式母头	AISG Connector A	8–pin DIN Female straight
AISG 接头 A 标准	IEC 60130–9	AISG Connector A Standard	IEC 60130–9
接头 B	8–pin DIN 直式公头	Connector B	8–pin DIN Male straight
数据导体种类	0.24 mm² (24 AWG) 双绞线	Data Conductor Type	0.24 mm² (24 AWG) twisted pair
电源导体种类	0.82 mm² (18 AWG) 标准线	Power Conductor Type	0.82 mm² (18 AWG) stranded
总芯数	6	Total Conductors, quantity	6
颜色	黑色	Color	Black
环境特性	**参数**	**Environmental Data**	**Data**
气候层序	IEC 60068–2–14	Climatic Sequence Test Method	IEC 60068–2–14
耐寒测试	IEC 60068–2–1	Cold Exposure Test Method	IEC 60068–2–1
湿热测试	IEC 60068–2–30, Test Condition Db	Damp Heat Exposure Test Method	IEC 60068–2–30, Test Condition Db
防火测试	IEC 60068–2–2	Heat Exposure Test Method	IEC 60068–2–2
雨淋模拟测试	IEC 60068–2–18, Test Condition Ra, Method 1	Rain Simulation Test Method	IEC 60068–2–18, Test Condition Ra, Method 1
工作温度	–40℃ to +70℃ (–40˚ F to +158˚ F)	Operating Temperature	–40℃ to +70℃ (–40˚ F to +158˚ F)
抗紫外线	IEC 60068–2–5, Test Condition B	UV Resistance Test Method	IEC 60068–2–5, Test Condition B
防护等级	IEC 60529:2001, IP67	Ingress Protection Test Method	IEC 60529:2001, IP67

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

AISG 线缆

AISG CABLE

AISG RET Control Cable

Two-way Splitter

技术参数

Technical Specification

电气性能	参数	Electrical Data	Data
EU 认证	CB/CE	EU Certification	CB/ CE
协议	AISG 1.1 / AISG 2.0	Protocol	AISG 1.1 /AISG 2.0
电压	≤ 300 V	Voltage	≤ 300 V
机械性能	**参数**	**Mechanical Data**	**Data**
AISG 输入接头	8-pin DIN 直式公头	AISG Input Connector	8-pin DIN Male straight
AISG 输出接头	8-pin DIN 直式母头	AISG Output Connector	8-pin DIN Female straight
接头数量	输入：输出 =1:2	Connector Quantity	Input: Output=1:2
数据导体种类	0.24 mm² (24 AWG) 双绞线	Data Conductor Type	0.24 mm² (24 AWG) twisted pair
电源导体种类	0.75 mm² (19 AWG) 标准线	Power Conductor Type	0.75 mm² (19 AWG) stranded
总芯数	6	Total Conductors, quantity	6
颜色	黑色	Color	Black
环境特性	**参数**	**Environmental Data**	**Data**
气候层序	IEC 60068-2-14	Climatic Sequence Test Method	IEC 60068-2-14
耐寒测试	IEC 60068-2-1	Cold Exposure Test Method	IEC 60068-2-1
湿热测试	IEC 60068-2-30, Test Condition Db	Damp Heat Exposure Test Method	IEC 60068-2-30, Test Condition Db
防火测试	IEC 60068-2-2	Heat Exposure Test Method	IEC 60068-2-2
耐腐蚀测试	IEC 60068-2-11, Test Condition Ka	Corrosion Test Method	IEC 60068-2-11, Test Condition Ka
雨淋模拟测试	IEC 60068-2-18, Test Condition Ra, Method 1	Rain Simulation Test Method	IEC 60068-2-18, Test Condition Ra, Method 1
工作温度	-40℃ to +70℃ (-40° F to +158° F)	Operating Temperature	-40℃ to +70℃ (-40° F to +158° F)
抗紫外线	IEC 60068-2-5, Test Condition B	UV Resistance Test Method	IEC 60068-2-5, Test Condition B
防护等级	IEC 60529:2001, IP67	Ingress Protection Test Method	IEC 60529:2001, IP67

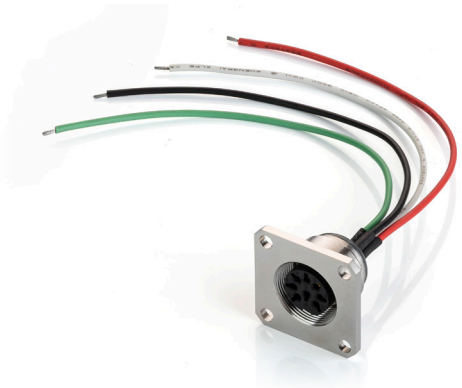
注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

AISG 线缆

AISG CABLE

AISG Female Cable



技术参数

Technical Specification

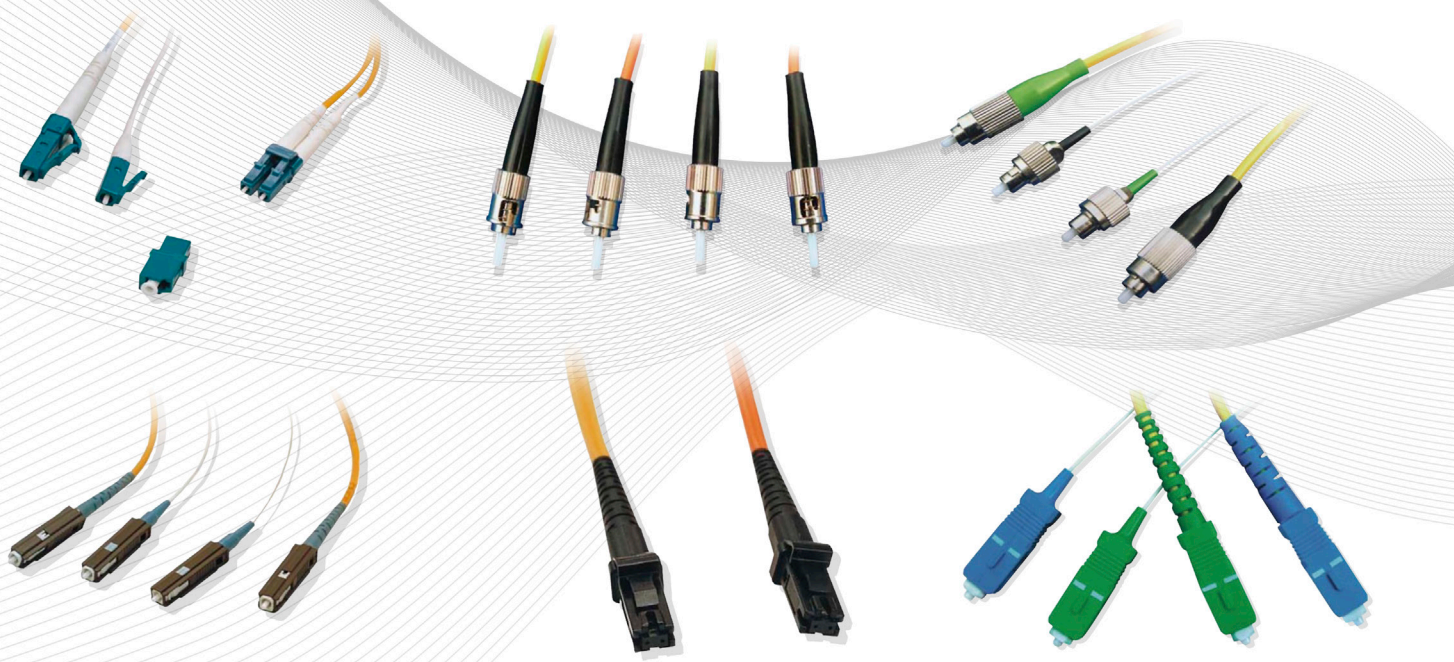
电气性能	参数	Electrical Data	Data
EU 认证	CB/CE	EU Certification	CB/ CE
协议	AISG 1.1 / AISG 2.0	Protocol	AISG 1.1 /AISG 2.0
电压	≤ 300 V	Voltage	≤ 300 V
机械性能	**参数**	**Mechanical Data**	**Data**
AISG 接头	8–pin DIN 直式母头	AISG Connector	8–pin DIN Female straight
编制覆盖	85%	Braid Coverage	85%
数据导体种类	0.24 mm² (24 AWG) 双绞线	Data Conductor Type	0.24 mm² (24 AWG) twisted pair
护套材料	热塑性弹性体 TPE	Jacket Material	Thermoplastic elastomer (TPE)
总芯数	8	Total Conductors, quantity	8
颜色	依照客户要求	Color	per customer's requirement
环境特性	**参数**	**Environmental Data**	**Data**
气候层序	IEC 60068–2–14	Climatic Sequence Test Method	IEC 60068–2–14
耐寒测试	IEC 60068–2–1	Cold Exposure Test Method	IEC 60068–2–1
湿热测试	IEC 60068–2–30, Test Condition Db	Damp Heat Exposure Test Method	IEC 60068–2–30, Test Condition Db
防火测试	IEC 60068–2–2	Heat Exposure Test Method	IEC 60068–2–2
耐腐蚀测试	IEC 60068–2–11, Test Condition Ka	Corrosion Test Method	IEC 60068–2–11, Test Condition Ka
雨淋模拟测试	IEC 60068–2–18, Test Condition Ra, Method 1	Rain Simulation Test Method	IEC 60068–2–18, Test Condition Ra, Method 1
工作温度	–40℃ to +70℃ (–40˚ F to +158˚ F)	Operating Temperature	–40℃ to +70℃ (–40˚ F to +158˚ F)
抗紫外线	IEC 60068–2–5, Test Condition B	UV Resistance Test Method	IEC 60068–2–5, Test Condition B
防护等级	IEC 60529:2001, IP67	Ingress Protection Test Method	IEC 60529:2001, IP67

注：这些特性具有典型代表性，不适用于所有连接器。

Note: These characteristics are typical and may not apply to all connectors.

光 纤 电 缆

OPTICAL FIBER CABLE



光纤电缆

OPTICAL FIBER CABLE

国昌针对不同的网络应用可以提供多样化的光纤光缆及其连接系统，如按通信网络类型分，有针对移动网络的 FTTA（光纤到天线）解决方案，针对固定宽带接入的 FTTH（光纤到户）解决方案等。

Fiber optic technology has revolutionized the telecommunications industry with its large advantages over existing copper wire in long-distance and high-demand applications. Due to much lower attenuation and interference, fiber optic communication systems are widely used to transmit telephone/Internet/cable television signals. In Fiber optic domain, GC Tech. can provide FTTA (Fiber to the Antenna) cabling system for the mobile telecommunication application and FTTH for PON network.

FTTA 解决方案

当今移动通信网络对高速数据传输需求巨大，基站与射频拉远单元之间的连接表现直接关系到移动网络到终端用户之间的信数据传输质量。

根据移动基站与 RRU 之间不同的连接接口与防水防护要求，国昌科技可根据实际情况提供各种接口类型的光纤光缆跳线及其相关连接单元。

Product Features

According to the different connection interface between a mobile base stations and RRU with waterproof protection requirements, GC Tech.

may provide a variety of optical fiber cable assemblies and related link units.

RDC PLUG 双芯跳线

RDC PLUG 双芯跳线用于连接移动基站到远端射频模块 RRH/RRU，可室内或室外安装，RDC 接头兼容标准的 ODC®-2。

RDC PLUG Cable Assembly

Such fiber optical cable assemblies connect remote radio heads/units RRH/RRU) with base stations in mobile communicationapplications. They can be used indoor and outdoor, are UV protected. The GC Tech. Duplex Connector (RDC) is intermateable with ODC®-2.

产品特点

- 光纤数量为 2 芯，单模或多模；
- RDC 接头坚固耐用，
- 可适应恶劣天气环境；
- 安装简单快捷。

Product Features

- 2 fibers, single mode or multimode
- Ruggedized RDC for RRH/RRU connection
- Easy and quick manual installation
- Pulling sock available

带 RDC 分支的多芯跳线

带 RDC 分支的多芯跳线用于连接移动基站到远端射频模块 RRH/RRU，可室内或室外安装。接头与分支可达到 IP67 防护等级，更适合在室外环境中使用。

FTTA Fiber Trunk with RDC

FTTA fiber trunks are fiber optical cable assemblies connecting base stations and remote radio heads in telecommunication applications. They can be used indoor and outdoor and are UV protected.Connectors and fan-out are IP67 protected. This ensures easy handling in an outdoor environment. A pulling sock eases cable hoisting. RDC metal cover is also available.

FTTH 解决方案

国昌科技光纤跳线及尾纤有单芯、双芯或其他定制的多种规格，主要应用于室内的光纤互联。国昌科技提供的工业标准连接器均经过符合 TIA/IEC 标准的测试，而且所有产品接受 100% 的测试方可出厂。

产品特点

- 适用于所有常见的连接系统;
- 可选用的光缆 :
  a. 0.9mm 紧套光纤 ;
  b. 1.6-2.0mm 单芯 / 双芯室内光缆 ;
  c. 3.0mm 单芯 / 双芯室内光缆 ;
- 光纤类型 : SM G .652D, G.657A 1/A 2 以及 G.657B2/B3;
- 连接器可选 : LC、FC、SC、ST、MU、MT-RJ;
- UPC 及 APC 可选 ;
- OFNR、OFNP、LSZH 外护套可选。

Optical Fiber Patch Cord

GC Tech. fiber optic patch cord and pigtails, in simplex, duplex or other customized forms are mainly used to link up patch panels and to interconnect the work outlets. GC Tech. supplies all industry-standard connector and cable assemblies which comply with and tested to TIA/IEC standards. The products are 100% tested and individually packed.

Product Features

- Available for all common types of connectivity systems;
- Cable option:
  a. 0.9mm buffered fiber ;
  b. 1.6-2.0mm simplex/duplex cable ;
  c. 3.0mm simplex/duplex cable ;
- Fiber option: SM G.652D, G.657A1/A2,G.657B2/B3;
- Connector option: LC,FC,SC,ST,MU,MT-RJ;
- UPC & APC polishing available;
- OFNR,OFNP,LSZH outer sheath available.

光纤适配器

光纤适配器一般用于连接 2 个光纤活动连接器，通常用于 19" 光纤单元或光纤插座上。通过一个陶瓷套筒，插芯可以被精确的对准，从而确保了连接时的插入损耗保持在一个低值；国昌科技可提供各种常见适配器：SC/LC/FC/E2000 等。金属的 ST 及 FC 适配器，保证了较高的及长期稳定的机械性能，确保多次重复使用性能无劣化；小型的 LC 及 MT-RJ 型适配器在使用双端口时，可以增加 100% 的端口数量。

产品特点

- 完全符合国际标准
- 耦合损耗低
- 单模及多模可选
- 金属及塑料外壳可选
- 青铜或陶瓷套筒用于插芯的精确对准
- 单端口或双端口
- 小型法兰或大型法兰
- 混合型

Optical Fiber Adapter

The fiber-optic adapters are used to link fiber-optic connectors terminated on a fiber-optic cable and are usually mounted in 19"patch panels and fiber face box. GC Tech. couplers provide a saving through low insertion loss interconnection because the fiber is precisely aligned by a ceramic sleeve. GC Tech. provide all kinds of adapters to meet the network connections, like SC/LC/FC/E2000/ST. The metal body ST- and SC-adapters guarantee a high mechanical long-term stability and reproducible mating. The Small-Form- Factor LC and MT-RJ-adapter enable an increase of density by 100% through interconnecting two fibers provided by the referring MT-RJ and LC-duplex connector.

Product Features

- Comply with international standards
- Low coupling loss
- Single mode or multimode or both
- Metal or plastic housing
- Bronze or ceramic alignment sleeves
- Simplex or duplex
- Flange-less or w/flange
- Hybrids

测 量 工 具

MEASUREMENT TOOLS

转接器
ADAPTOR

产品特点

- 范围广泛的不同配置；
- 提供最常见的接口
- 准确的过渡
- 有效可靠的互连解决方案
- 优良的电气性能
- 高重复性和准确性

Product Features

- Wide range of different configurations;
- Most common interfaces available;
- Accurate transitions;
- Effective and reliable interconnection solutions;
- Excellent electrical performance;
- High repeatability and accuracy.

应用范围

- 工业范围；
- 精密仪器；
- 电子元件；
- 过程控制系统

Application

- General industrial applications;
- Precision instruments ；
- Components；
- Process Controls.

技术参数
Technical Specification

材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 不锈钢	镀金 / 镀银 / 镀镍 / 镀三元合金 / 钝化	Body	Brass/Stainless Steel	Gold Plated/Silver Plated/Nickel Plated/ White Bronze Plated/ Passivation
连接螺母	黄铜 / 不锈钢	镀金 / 镀镍 / 镀三元合金 / 钝化	Coupling Nut	Brass/Stainless Steel	Gold Plated/Nickel Plated/White Bronze Plated/Passivation
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/ Beryllium Copper	Gold Plated/Silver Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

环境特性	参数	Environmental Data	Data
温度范围	-55℃ ~125℃	Temperature Range	-55℃ ~125℃
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B	Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B
振动	MIL-STD-202 method 204. Condition B	Vibration	MIL-STD-202 method 204. Condition B
冲击	MIL-STD-202 method 213. Condition G	Shock	MIL-STD-202 method 213. Condition G
热冲击	MIL-STD-202 method 107. Condition B	Thermal Shock	MIL-STD-202 method 107. Condition B
抗潮湿性	MIL-STD-202 method 106	Moisture Resistance	MIL-STD-202 method 106

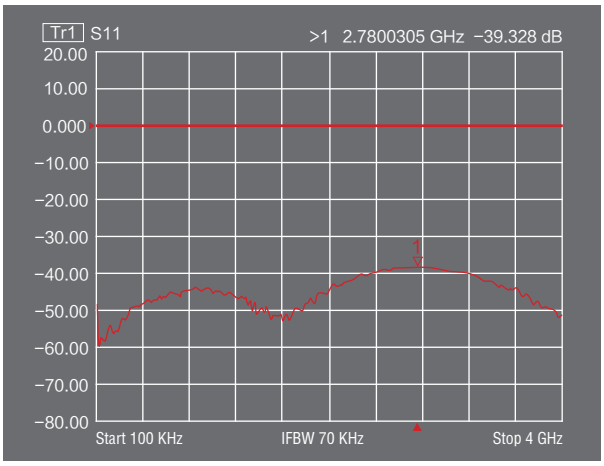
转接器
ADAPTOR

转接器组合
Adaptor Combination

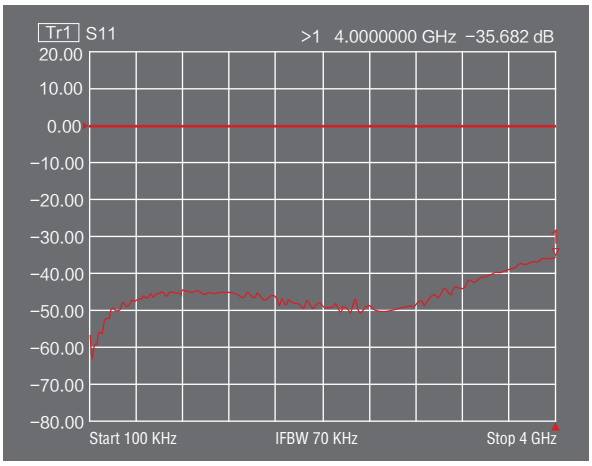
	SMA	SMB	N	DIN 7/16	L-SMP	SMP	P-SMP	BMA	4.3-10	NEX10
SMA	●	●	●	●	●	●	●	●	●	●
SMB	●	●	●							
N	●	●	●	●	●	●	●	●	●	●
DIN 7/16	●		●	●					●	●
L-SMP	●		●		●					
SMP	●		●			●				
P-SMP	●		●				●			
BMA	●		●					●		
4.3-10	●		●	●					●	
NEX10	●		●	●						
ETC	依照客户需求定制 More customized as per your need									

性能
Performance

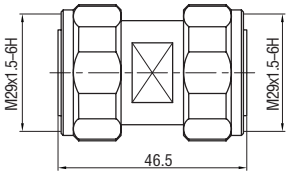
4.3-10 Plug To SMA Jack

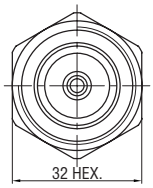


N Plug To SMA Jack



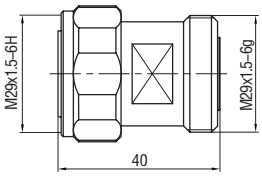
7/16 Plug to 7/16 Plug

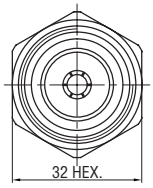




Part Number	50A7A00S-A7A
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

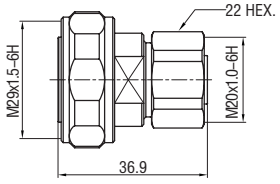
7/16 Plug to 7/16 Jack

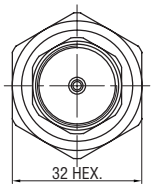




Part Number	50A7A00S-A7B
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

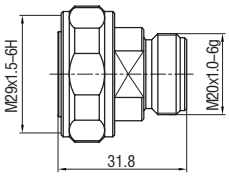
7/16 Plug to 4.1/9.5 Plug

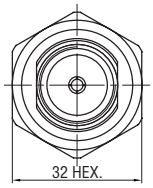




Part Number	50A7A00S-A4A
Return Loss	<-28dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

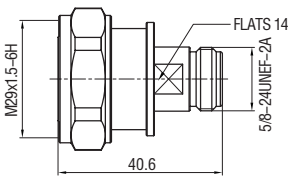
7/16 Plug to 4.1/9.5 Jack





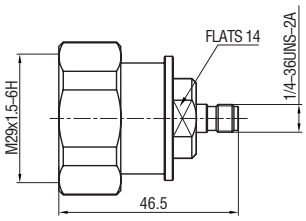
Part Number	50A7A00S-A4B
Return Loss	<-28dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

7/16 Plug to N TYPE Jack



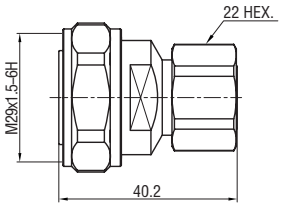
Part Number	50A7A00S-NCB-002
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, Silver Plating
Center Contact	Beryllium Copper, Silver Plating

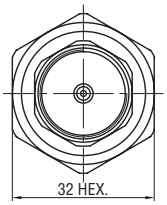
7/16 Plug to SMA Jack



Part Number	50A7A00S-MAB-001
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-160dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

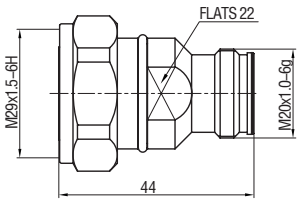
7/16 Plug to 4.3/10 Plug

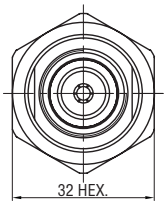




Part Number	50A3A00S-A7A
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

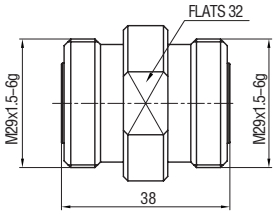
7/16 Plug to 4.3/10 Jack

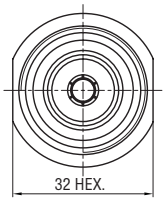




Part Number	50A3B00S-A7A
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

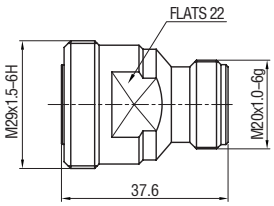
7/16 Jack to 7/16 Jack

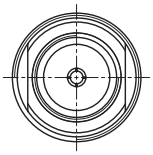




Part Number	50A7B00S-A7B
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

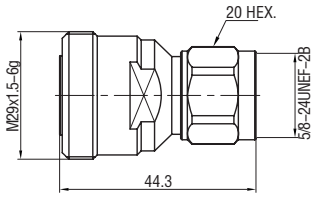
7/16 Jack to 4.1/9.5 Jack

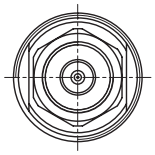




Part Number	50A7B00S-A4B
Return Loss	<-28dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

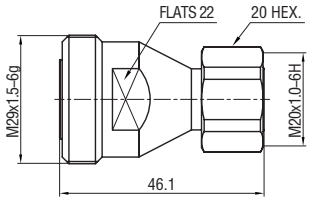
7 /16 Jack to N TYPE Plug

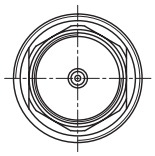




Part Number	50A7B00S-NCA
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

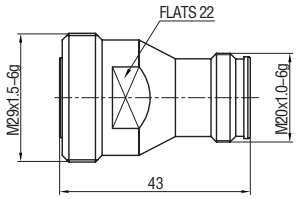
7 /16 Jack to 4.3/10 Plug

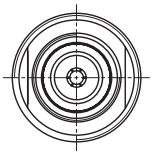




Part Number	50A7B00S-A3A
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, Silver Plating
Center Contact	Phosphor Bronze, Silver Plating

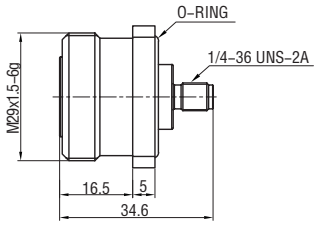
7 /16 Jack to 4.3/10 Jack

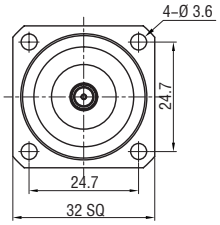




Part Number	50A3B00S-A7B
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

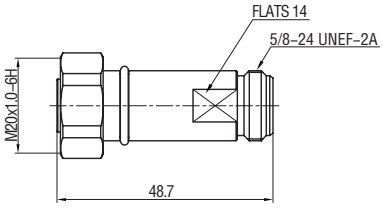
7 /16 Jack to SMA Jack





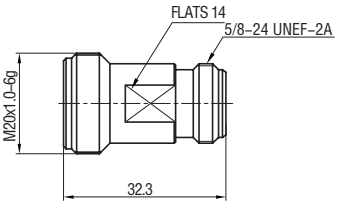
Part Number	50A7B00S-MAB
Return Loss	<-30dB (DC-4GHz)
PIM 3rd	<-160dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

4 .3/10 Plug to N TYPE Jack



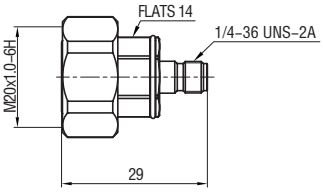
Part Number	50A3A00S-NCB-001
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

4.1/9.5 Jack to N TYPE Jack



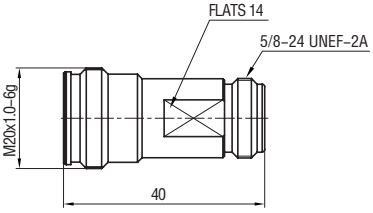
Part Number	50A4B00S-NCB
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

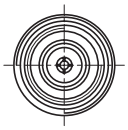
4.3/10 Plug to SMA Jack



Part Number	50A3A00S-MAB
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-160dBc (2*43dBm)
Body	Brass, Silver Plating
Center Contact	Beryllium Copper, Silver Plating

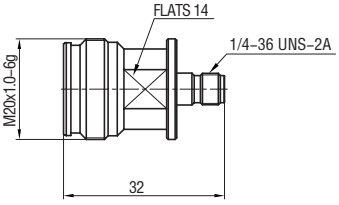
4.3/10 Jack to N TYPE Jack





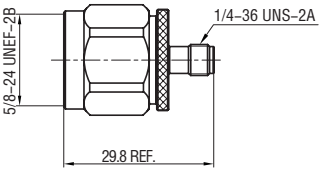
art Number	50A3B00S-NCB
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-165dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

4.3/10 Jack to SMA Jack



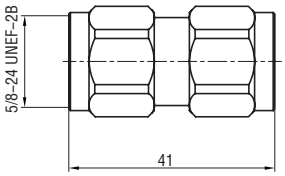
Part Number	50A3B00S-MAB
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-160dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

N TYPE Plug to SMA Jack



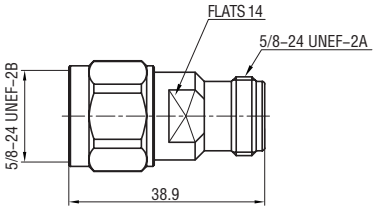
Part Number	50NCA00S-MAB
Return Loss	<-32dB (DC-4GHz)
PIM 3rd	<-160dBc (2*43dBm)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

N TYPE Plug to N TYPE Plug



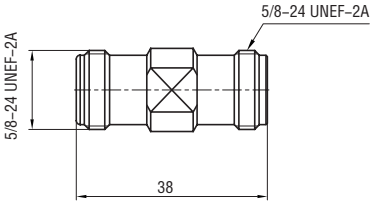
Part Number	50NCJ00S–NCA
Return Loss	<–32dB (DC–4GHz)
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

N TYPE Plug to N TYPE Jack



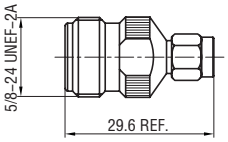
Part Number	50NCA00S–NCB
Return Loss	<–32dB (DC–4GHz)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

N TYPE Jack to N TYPE Jack



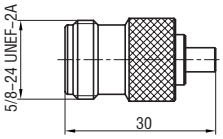
Part Number	50NCB00S–NCB
Return Loss	<–32dB (DC–4GHz)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

N TYPE Jack to SMA Plug



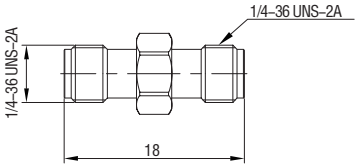
Part Number	50NCB00S–MAA–003
Return Loss	<–32dB (DC–4GHz)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

N TYPE Jack to MCX Jack



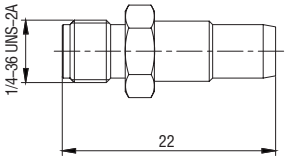
Part Number	50NCB00S–MXB
Return Loss	<–26dB (DC–3GHz)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

SMA Jack to SMA Jack



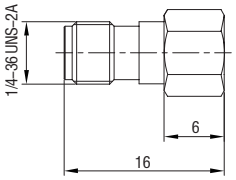
Part Number	50MAB00S–MAB
Return Loss	<–32dB (DC–4GHz)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

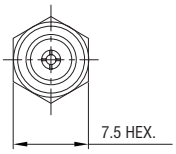
SMA Jack to BMA Plug



Part Number	50MAB00S–BMA
Return Loss	<–26dB (DC–4GHz)
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

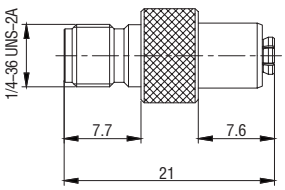
SMA Jack to BMA Jack





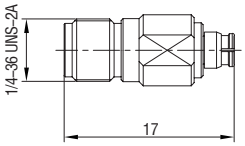
Part Number	50MAB00S–BMB
Return Loss	<–26dB (DC–3GHz)
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

SMA Jack to MCX Plug



Part Number	50MAB00S–MXA–002
Return Loss	<–26dB (DC–3GHz)
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

SMA Jack to SMP Jack



Part Number	50MAB00S–SMP
Return Loss	<–32dB (DC–4GHz)
Body	Brass, Gold Plating
Center Contact	Beryllium Copper, Gold Plating

负载
TERMINATION

产品特点 Product Features

- 阻抗匹配；
- 标准或精度型产品；
- 不同的带宽。

- Impedance matched;
- Standard or precision types;
- Various bandwidth.

应用范围 Application

- 测试 & 测量；
- 国防；
- 通信。

- Test &measurement;
- National Defence;
- Communication.

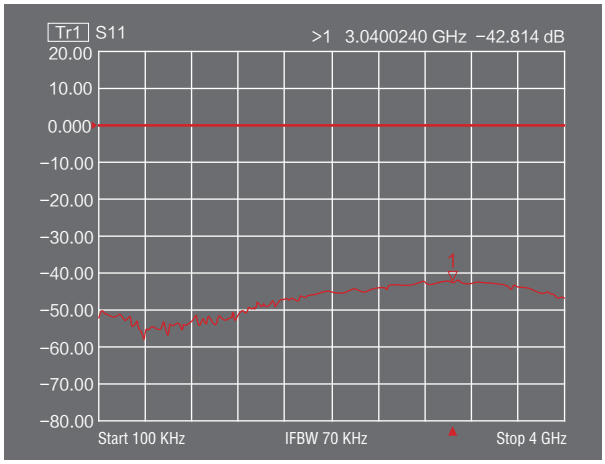
技术参数
Technical Specification

材料特性	参数		Material Data	Data	
连接器零件	材料	电镀	Connector Part	Material	Finish
外导体	黄铜 / 不锈钢	镀金 / 镀银 / 镀镍 / 镀三元合金 / 钝化	Body	Brass/Stainless Steel	Gold Plated/Silver Plated/Nickel Plated/White Bronze Plated/ Passivation
连接螺母	黄铜 / 不锈钢	镀金 / 镀镍 / 镀三元合金 / 钝化	Coupling Nut	Brass/Stainless Steel	Gold Plated/Nickel Plated/White Bronze Plated/Passivation
内导体	黄铜 / 磷铜 / 铍铜	镀金 / 镀银	Center Contact	Brass/Phosphor Bronze/ Beryllium Copper	Gold Plated/Silver Plated
绝缘体	PTFE		Insulator	PTFE	
垫圈	硅橡胶		Gasket or O-Ring	Silicone Rubber	

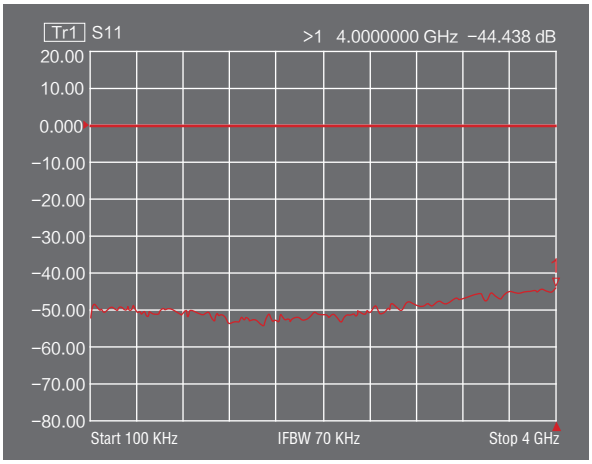
环境特性	参数	Environmental Data	Data
温度范围	-55℃ ~125℃	Temperature Range	-55℃ ~125℃
耐腐蚀性（盐雾）	MIL-STD-202 method 101. Condition B	Corrosion (Salt Spray)	MIL-STD-202 method 101. Condition B
振动	MIL-STD-202 method 204. Condition B	Vibration	MIL-STD-202 method 204. Condition B
冲击	MIL-STD-202 method 213. Condition G	Shock	MIL-STD-202 method 213. Condition G
热冲击	MIL-STD-202 method 107. Condition B	Thermal Shock	MIL-STD-202 method 107. Condition B
抗潮湿性	MIL-STD-202 method 106	Moisture Resistance	MIL-STD-202 method 106

性能
Performance

N Plug Termination



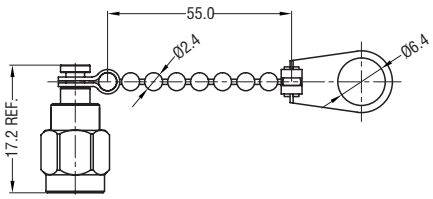
SMA Plug Termination



SMA Plug

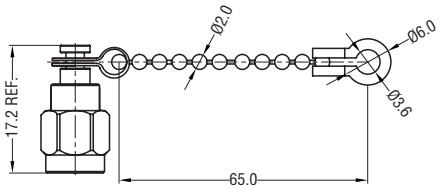
Part Number	50MAA00S–T05–001
Return Loss	<–32dB (DC–4GHz)
Power	1W
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

SMA Plug



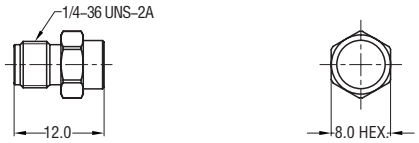
Part Number	50MAA00S–T05–022
Return Loss	<–32dB (DC–4GHz)
Power	1W
Body	Brass, Tin–Nickel Plating
Center Contact	Brass, Gold Plating

SMA Plug



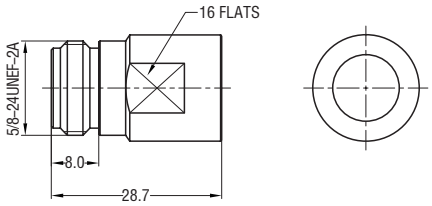
Part Number	50MAA00S–T05–024
Return Loss	<–32dB (DC–4GHz)
Power	1W
Body	Brass, Tin–Nickel Plating
Center Contact	Brass, Gold Plating

SMA Jack



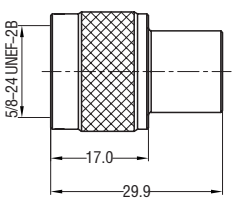
Part Number	50MAA00S–T05–024
Return Loss	<–32dB (DC–4GHz)
Power	1W
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

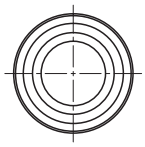
NTYPE Jack



Part Number	50NCB00S–T01
Return Loss	<–32dB (DC–4GHz)
Power	1W
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Gold Plating

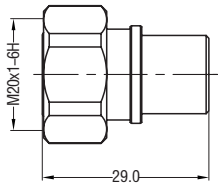
N TYPE Plug

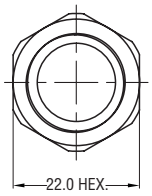




Part Number	50NCA00S-T01
Return Loss	<-32dB (DC-4GHz)
Power	2W
Body	Brass, White Bronze Plating
Center Contact	Brass, Gold Plating

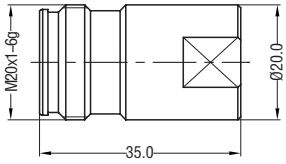
4 .3/10 Plug

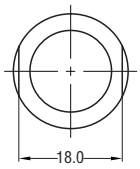




Part Number	50A3A00S-T01
Return Loss	<-27dB (DC-4GHz)
Power	2W
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

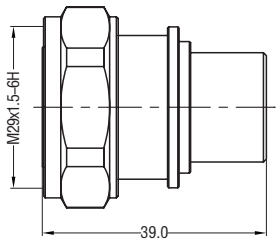
4 .3/10 Jack

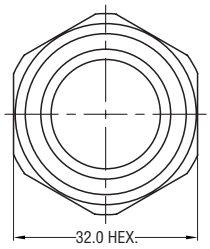




Part Number	50A3B00S-T01
Return Loss	<-27dB (DC-4GHz)
Power	2W
Body	Brass, White Bronze Plating
Center Contact	Beryllium Copper, Silver Plating

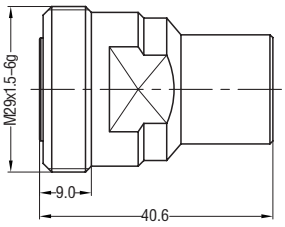
7 /16 Plug

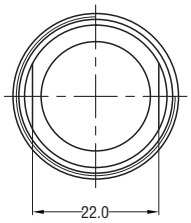




Part Number	50A7A00S-T01
Return Loss	<-27dB (DC-3GHz)
Power	2W
Body	Brass, White Bronze Plating
Center Contact	Brass, Silver Plating

7 /16 Jack





Part Number	50A7B00S-T01
Return Loss	<-27dB (DC-3GHz)
Power	2W
Body	Brass, White Bronze Plating
Center Contact	Phosphor Bronze, Silver Plating

技 术 信 息

TECHNICAL INFORMATION

回损 – 驻波比关系表

Return Loss–VSWR relationship tables

回损 Return Loss	反射系数 Reflection Coefficient	驻波比 VSWR
10.0	0.316	1.923
10.5	0.298	1.848
11.0	0.282	1.780
11.5	0.266	1.726
12.0	0.252	1.671
12.5	0.237	1.618
13.0	0.224	1.578
13.5	0.211	1.538
14.0	0.199	1.497
14.5	0.188	1.462
15.0	0.178	1.430
15.5	0.165	1.396
16.0	0.158	1.374
16.5	0.150	1.350
17.0	0.141	1.329
17.5	0.133	1.304
18.0	0.126	1.285
18.5	0.119	1.268
19.0	0.112	1.251
19.5	0.106	1.235
20.0	0.100	1.220
20.5	0.094	1.208
21.0	0.089	1.193
21.5	0.084	1.180
22.0	0.079	1.171
22.5	0.075	1.160
23.0	0.071	1.151
23.5	0.067	1.142
24.0	0.063	1.133
24.5	0.060	1.124
25.0	0.057	1.118
25.5	0.053	1.111
26.0	0.050	1.105
26.5	0.047	1.100
27.0	0.045	1.094
27.5	0.042	1.088
28.0	0.040	1.082
28.5	0.038	1.078
29.0	0.035	1.073
29.5	0.034	1.069
30.0	0.032	1.064

回损 Return Loss	反射系数 Reflection Coefficient	驻波比 VSWR
30.5	0.030	1.060
31.0	0.028	1.056
31.5	0.027	1.054
32.0	0.025	1.051
32.5	0.024	1.048
33.0	0.022	1.045
33.5	0.021	1.043
34.0	0.020	1.040
34.5	0.019	1.038
35.0	0.018	1.036
35.5	0.017	1.034
36.0	0.016	1.032
36.5	0.015	1.030
37.0	0.014	1.028
37.5	0.013	1.027
38.0	0.013	1.025
38.5	0.012	1.022
39.0	0.011	1.021
39.5	0.011	1.020
40.0	0.010	1.020
40.5	0.009	1.018
41.0	0.009	1.017
41.5	0.008	1.016
42.0	0.008	1.015
42.5	0.008	1.014
43.0	0.007	1.013
43.5	0.007	1.012
44.0	0.006	1.012
44.5	0.006	1.011
45.0	0.005	1.011
45.5	0.005	1.011
46.0	0.004	1.010
46.5	0.004	1.009
47.0	0.004	1.008
47.5	0.004	1.008
48.0	0.004	1.008
48.5	0.004	1.008
49.0	0.004	1.007
49.5	0.003	1.007
50.0	0.003	1.003

同轴线的基本公式

射频连接器是装接在电缆或设备上，起着微波信号的传输或断开的可分离元件（电子元器件），属于机电一体化产品；主要应用在微波通信、汽车电子、医疗电子、仪器测试以及国防军事等重要领域。产品本身具备四大基本性能要求：电气性能、机械性能、材料以及应用环境性能。

1. 特性阻抗

近似公式：$Z_0=\frac{60}{\sqrt{\varepsilon}}\ln\frac{D}{d}$

精确公式：$Z_0=\frac{59.95860\pm0.0006}{\sqrt{\varepsilon}}\ln\frac{D}{d}$

Z0：“理想”同轴线的特性阻抗，单位 Ω；

D：外导体内径；

d：内导体外径；

ε：介质相对介电常数。

常用材料的相对介电常数：空气 $\varepsilon_r=1$，

工业聚乙烯：20℃时，ε=2.24；

-40℃ ~+40℃时，ε=2.22~2.26；

聚苯乙烯：ε=2.54；

聚四氟乙烯：ε=2.02（ε=2.05）；

PC（聚碳酸酯）、有机玻璃：ε=2.5.

实际上，在生产过程中，相对介电常数每批不一样，会有一定的变化，使用时必须注意。

所谓“理想”是“一切理想”，即是：导体是绝对导体（σ→∞），介质是绝对不导体（σ→0），同时线是绝对均匀，等等。

2. 交调

设已输入的 2 个信号的频率为 f1 和 f2，由于这些信号成分经过传输线及放大器、混频器等器件，如这些器件其功能具有非线性特征时，就会产生 f1×2 和 f2×2 这两个 2 次谐波。然后，通过这一高次谐波与原始信号 f1 和 f2，产生 2f1−f2 和 2f2−f1 这两个频率成分。它们是在非常接近基本频率成分的部分中产生的失真成分。这些信号通常称为 IM3（三阶互调）。如果工作在与该杂音频率相同的频率下就会受到严重干扰，甚至接收机不工作。在接收模拟信号时，会发生雪花干扰与拍频干扰。特别在数字广播中由于使用多个频率或者更多采用单信道集中发送方式时就更容易发生相互调制、相互干扰。对电缆及其接头不用铁、磁、镍材料，连接件的连接紧密、结实都有助于减少三阶互调失真成分。

Basic formula for coaxial cable

RF connector is a separable components (electronic components), which is attached to the cable or equipment and acts as a transmission or disconnection of microwave signals. It is a mechatronics products mainly used in important fields such as microwave communications, automotive electronics, medical electronics, instrument testing, defense and military. There are four basic performance requirements for this product: electrical performance, mechanical properties, materials, and application environment performance.

1.Characteristic Impedance

Approximate formula：$Z_0=\frac{60}{\sqrt{\varepsilon}}\ln\frac{D}{d}$

Accurate formula：$Z_0=\frac{59.95860\pm0.0006}{\sqrt{\varepsilon}}\ln\frac{D}{d}$

Z0："ideal" characteristic impedance of coaxial cable，unit: Ω；

D：Inner diameter of outer conductor；

d：Outer diameter of inner conductor；

ε：Dielectric relative permittivity .

Relative permittivity for general materials：Air $\varepsilon_r=1$，

Industrial polyethylene：20℃，ε=2.24；

-40℃ ~+40℃，ε=2.22~2.26；

Polystyrene：ε=2.54；

PTFE：ε=2.02（ε=2.05）；

PC（polycarbonate），Polymethyl methacrylate：ε=2.5.

Actually，in manufacturing process，the relative permittivity of each batch is different and changing a little. Pay more attention.

Ideal is that everything is ideal. Conductor is absolute conductor（σ→∞），dielectric is absolute non conductor（σ→0）. Meanwhile cable is absolute uniformity, and so on.

2.Inter Modulation

When two input frequencies are assumed to be f1 and f2, two second high note waves named f1×2 and f2×2 are generated by transmitting through transmission line, amplifiers and mixers, etc. if those equipment have the non-linear direction of those signal elements. In addition, two frequency elements named 2f1-f2, 2f2-f1 are generated by f1 and f2 that are harmonic components and are the former signals. These are partially generated very near basic frequency element as a warp element. This is a signal which is generally called IM3. This becomes noise if working in the frequency in which the frequency internal and the same two input signals part. The signal may serious interference or even not be received. Snow noise and beat noise may be generated in the analog signal. Especially, this inter-modulation becomes a problem in digital broadcasting. It is leading to a lot of adaptations in the methods used to collectively transmit a lot of frequencies when there is one channel. Generating inter-modulation in the broadcasting wave leads to the generation of electric waves that are mutually interfered with. It would help to reduce IM3 when cable and connector do not use iron, magnetic, nickel materials, connector connection both close and strong as the same.

3. 击穿功率公式

$$\frac{P}{E_{max}^2} = \frac{D^2\sqrt{\varepsilon}\ \ln\frac{D}{d}}{120\left(\frac{D}{d}\right)^2}$$

P —— 击穿功率，单位：瓦

E_{max} —— 最大冲穿电强度（空气一般为 3×106 v/m）

4. 衰减公式

$$B=B_r+B_d=\frac{R_S}{2Z_0}+\frac{1}{2}Z_0G$$

$$B_r=\frac{8.68}{2}\left(\frac{1}{D}+\frac{1}{d}\right)\sqrt{\frac{f\pi\varepsilon}{\sigma}}\ X\ \frac{1}{\ln\frac{D}{d}}$$

$$B_r=\frac{8.68\ \sigma_1}{2}\sqrt{\frac{\mu}{\varepsilon_1}}$$

Rs 表示导体集肤表面电阻

5. 相位、相位常数

$$a=\omega\sqrt{LC}=\frac{2\pi}{\lambda_g}$$

$$\Phi=al=\frac{2\pi}{\lambda_0}\sqrt{\varepsilon}\,l$$

λ_g、λ_0 表示同轴线中和真空中的波长

l ——线的长度

6. 反射系数

$$\Gamma=\frac{Z_H-Z_0}{Z_H+Z_0}\ e^{-j2al}$$

$$\Gamma=\frac{1+|\Gamma|}{1-|\Gamma|}$$

V_{SWR} 表示电压驻波比

|Γ| 是反射系数 Γ 的幅值

7. 工作频率极限

工作频率上限由 TE11 模的截止频率决定。

TE11 模的截止频率可近似的表示为：

$$f_{C_0}=\frac{190.8}{\sqrt{\varepsilon}\ (D+d)}$$

由于导体有限电导率会引起一定的趋表深度和一定的串联电阻，这决定了精密同轴传输线的工作频率下限。这个下限可近似的由下式决定

$$f\approx\frac{1.824\times10^9}{A^2}\ \rho\left(\frac{1}{D}+\frac{1}{d}\right)^2\quad MHz$$

A——允许的阻抗误差 %

ρ ——导体的电阻率 Ω/m

3.Breakdown power formula

$$\frac{P}{E_{max}^2} = \frac{D^2\sqrt{\varepsilon}\ \ln\frac{D}{d}}{120\left(\frac{D}{d}\right)^2}$$

P —— Breakdown power，unit：w

E_{max} —— Maximum punching electric strength（Air:3×106 v/m）

4.Attenuation formula

$$B=B_r+B_d=\frac{R_S}{2Z_0}+\frac{1}{2}Z_0G$$

$$B_r=\frac{8.68}{2}\left(\frac{1}{D}+\frac{1}{d}\right)\sqrt{\frac{f\pi\varepsilon}{\sigma}}\ X\ \frac{1}{\ln\frac{D}{d}}$$

$$B_r=\frac{8.68\ \sigma_1}{2}\sqrt{\frac{\mu}{\varepsilon_1}}$$

Rs : conductor surface resistance

5.Phase and phase constant

$$a=\omega\sqrt{LC}=\frac{2\pi}{\lambda_g}$$

$$\Phi=al=\frac{2\pi}{\lambda_0}\sqrt{\varepsilon}\,l$$

λ_g : the wavelength between coaxial cable and coaxial cable.

λ_0 : the wavelength in

l ——length of the cable。

6. Reflection coefficient

$$\Gamma=\frac{Z_H-Z_0}{Z_H+Z_0}\ e^{-j2al}$$

$$\Gamma=\frac{1+|\Gamma|}{1-|\Gamma|}$$

V_{SWR} : Voltage Standing Wave Ratio

|Γ|: Magnitude of reflection coefficient

7.Operation frequency limitation

Operation frequency upper limit is depended on cut-off frequency of TE11 mode.

Cut-off frequency of TE11 mode is approximate as follow：

$$f_{C_0}=\frac{190.8}{\sqrt{\varepsilon}\ (D+d)}$$

Due to the limited conductivity of the conductor, it will lead to some skin depth and some series resistance. It will decide the lower limit of the working frequency for the precise coaxial transmission line. The lower limit is approximately depended on the following formula.

$$f\approx\frac{1.824\times10^9}{A^2}\ \rho\left(\frac{1}{D}+\frac{1}{d}\right)^2\quad MHz$$

A——Allowed impedance tolerance %

ρ ——Resistivity of the conductor Ω/m

8. 同轴线的电感、电容、电阻、电导

$$L=\frac{\mu_1}{2\pi}\ln\frac{D}{d} \qquad H/m$$

$$c=\frac{2\pi\varepsilon_1}{\ln\frac{D}{d}} \qquad F/m$$

$$R=\frac{1}{2}\left(\frac{1}{D}+\frac{1}{d}\right)\sqrt{\frac{f\mu_1}{\pi\sigma}} \qquad 1/\Omega m$$

电导：$G=\frac{2\pi\sigma_1}{\ln\frac{D}{d}}$ $\quad 1/\Omega m$

$\mu_1=\mu\times\mu_0$ $\quad \mu_0=4\pi\times10^{-7}$ H/m

$\varepsilon_1=\varepsilon\times\varepsilon_0$ $\quad \varepsilon_0=1/36\pi\times10^{-9}$ F/m

L、C、R 和 G 分别表示单位长度上的电感、电容、电阻和电导。

μ——相对导磁率　　ε——相对介电常数

σ——导体导电率　　σ_1——介质导电率

f——频率

8.Inductance, capacitance, resistance and conductance of the coaxial cable

$$L=\frac{\mu_1}{2\pi}\ln\frac{D}{d} \qquad H/m$$

$$c=\frac{2\pi\varepsilon_1}{\ln\frac{D}{d}} \qquad F/m$$

$$R=\frac{1}{2}\left(\frac{1}{D}+\frac{1}{d}\right)\sqrt{\frac{f\mu_1}{\pi\sigma}} \qquad 1/\Omega m$$

Conduction：$G=\frac{2\pi\sigma_1}{\ln\frac{D}{d}}$ $\quad 1/\Omega m$

$\mu_1=\mu\times\mu_0$ $\quad \mu_0=4\pi\times10^{-7}$ H/m

$\varepsilon_1=\varepsilon\times\varepsilon_0$ $\quad \varepsilon_0=1/36\pi\times10^{-9}$ F/m

L,C,R and G respectively stand for inductance, capacitance, resistance and conductance per unit length.

μ——relative magnetic permeability　　ε——Relative permittivity

σ——electric conductivity for conductor　　σ_1——electric conductivity for dielectric

f——frequency

9. 机械公差对特性阻抗的影响

$$\Delta Z_0/Z_0=\frac{60}{\sqrt{\varepsilon}I_0}\left(\frac{\Delta D}{D}-\frac{\Delta d}{d}\right)$$

$$\Delta Z_0/Z_0=1.2\left(\frac{\Delta D-2.3\Delta d}{D}\right)$$

对于 75Ω 的空气线：

$$\Delta Z_0/Z_0=0.8\left(\frac{\Delta D-3.49\Delta d}{D}\right)$$

ΔD：外导体直径公差

Δd：内导体直径公差

由此引起的驻波比为：

$$V_{SWR}=1+\left|\frac{\Delta Z_0}{Z_0}\right|$$

9.Characteristic impedance by mechanical tolerance:

$$\Delta Z_0/Z_0=\frac{60}{\sqrt{\varepsilon}I_0}\left(\frac{\Delta D}{D}-\frac{\Delta d}{d}\right)$$

$$\Delta Z_0/Z_0=1.2\left(\frac{\Delta D-2.3\Delta d}{D}\right)$$

For the 75 ohms of air line：

$$\Delta Z_0/Z_0=0.8\left(\frac{\Delta D-3.49\Delta d}{D}\right)$$

ΔD：Diameter tolerance of the outer conductor

Δd：Diameter tolerance of the inner conductor

V_{SWR} resulted from this：

$$V_{SWR}=1+\left|\frac{\Delta Z_0}{Z_0}\right|$$

10. 不同心度引起特性阻抗的偏差

$$\Delta Z_0\approx-240\frac{e^2}{D^2-d^2}$$

对于 50 的同轴线：

$$\Delta Z_0\approx-296\frac{e^2}{D^2}$$

e：中心绝对中心距

10.The tolerance of characteristic impedance by nonconcentricity

$$\Delta Z_0\approx-240\frac{e^2}{D^2-d^2}$$

For the 50 ohms of coaxial cable：

$$\Delta Z_0\approx-296\frac{e^2}{D^2}$$

e：Absolute center distance

11. 有限电导率引起特性阻抗偏差

$$\Delta Z_0=302\sqrt{\frac{\rho}{f}}\left(\frac{1}{D}+\frac{1}{d}\right)(1+j)Z_0$$

11.Tolerance of characteristic impedance by the limited conductivity

$$\Delta Z_0=302\sqrt{\frac{\rho}{f}}\left(\frac{1}{D}+\frac{1}{d}\right)(1+j)Z_0$$

12. 导体槽对特性阻抗的影响

在 50 的空气介质中，导体上槽所引起特性阻抗偏差为下式决定：

$$\Delta Z_1=+12.5N_1\left(\frac{\omega_1}{d}\right)^2\%$$

$$\Delta Z_2=+12.5N_2\left(\frac{\omega_2}{D}\right)^2\%$$

ΔZ——特性阻抗变化的百分数

N——槽的数目（N_1——内导体上槽的数目

N_2——外导体上槽的数目）

ω_1——内导体上的槽宽

ω_2——外导体上的槽宽

为补偿这个变化，开槽处内外导体直径也相应变化计算公式为：

$$\Delta d=+104\ N_1\frac{\omega_1^2}{d}$$

$$\Delta D=+104\ N_2\frac{\omega_2^2}{D}$$

12.Characteristic impedance due to the groove of the conductor

With air dielectric 50 ohms, the tolerance of characteristic impedance is affected by the groove of the conductor.

$$\Delta Z_1=+12.5N_1\left(\frac{\omega_1}{d}\right)^2\%$$

$$\Delta Z_2=+12.5N_2\left(\frac{\omega_2}{D}\right)^2\%$$

ΔZ——Percentage of change for characteristic impedance

N——the number of the groove

（N_1——the number of the groove on the inner conductor

N_2——the number of the groove on the outer conductor）

ω_1—— Groove width of inner conductor

ω_2—— Groove width of outer conductor

For the compensation of the change, the diameter of inner conductor and outer conductor

$$\Delta d=+104\ N_1\frac{\omega_1^2}{d}$$

$$\Delta D=+104\ N_2\frac{\omega_2^2}{D}$$

13. 导体间隙对特性阻抗的影响

由导体间隙引起的驻波比由下式决定：

$$S=0.064fg_1\ln\left(\frac{\pi d-N_1\omega_1}{\pi d_g-N_1\omega_1}\right)\%$$

$$S=0.064fg_1\ln\left(\frac{\pi D-N_2\omega_2}{\pi D_g-N_2\omega_2}\right)\%$$

S—— 驻波系数	%（即 S=VOWR −1）
f—— 频率	GHz
g—— 间隙宽度	密耳
d_g—— 间隙处内导体直径	
D_g——间隙处外导体直径	

13. Characteristic impedance due to conductor gap

V_{SWR} formula due to the gap of conductor：

$$S=0.064fg_1\ln\left(\frac{\pi d-N_1\omega_1}{\pi d_g-N_1\omega_1}\right)\%$$

$$S=0.064fg_1\ln\left(\frac{\pi D-N_2\omega_2}{\pi D_g-N_2\omega_2}\right)\%$$

S——VSWR	%（S=VOWR −1）
f—— Frequency	GHz
g——Gap width	Mil
d_g——Diameter of inner conductor in the gap	
D_g——Diameter of outer conductor in the gap	

射频同轴电缆常数计算表达式

在频率超 10MHz， 高频同轴电缆常数（参数）用下列表达式表达：

f: 频率（Hz）

d: 内导体外径（m）

D: 外导体内径（m）

ε : 等效介电常数

tan δ : 等效介电质损耗角正切

ω=2πf: 角频率

K1K2: 由内外导体材料构成相应的所决定的参数。

（铜导线铜管：1
绞合的铜导线：1.2
编织的铜导线：2–3
铝导线铝管：1.3）

K3: 由外导体形状材料构成相应的所决定的参数

（光滑的管子：1.0
波纹管：1.2）

绝缘层形式	ε	tan δ
实芯聚乙烯绝缘	2.30	2.0×10–4
发泡聚乙烯绝缘	1.50	1.5×10–4
高发泡聚乙烯绝缘	1.25	1.0×10–4
实芯 PTFE 绝缘	2.10	2.0×10–4

①导体电阻

$$R=83.05\sqrt{f}\left[\frac{k_1}{d}+\frac{k_2 k_3}{D}\right]\times10^{-9}(\Omega/m)$$

②电感（针对铁磁体不适用）

$$L=0.4605\log_{10}\frac{D}{d}\times10^{-6}(H/m)$$

③电容

$$C=\frac{\varepsilon}{18\ \ln\frac{D}{d}}\times10^{-9}\ \frac{24.13\,\varepsilon}{\log_{10}\frac{D}{d}}\times10^{-12}(F/m)$$

④电导

$$G=2\pi f\cdot C\cdot\tan\delta\ (S/m)$$

⑤特性阻抗

$$Z_0=\frac{60}{\sqrt{\varepsilon}}\ln\frac{D}{d}=\frac{138.1}{\sqrt{\varepsilon}}\log_{10}\frac{D}{d}(\Omega)$$

⑥衰减

$a=a_r+a_g$

a_r: 电阻衰减

a_g: 介质衰减

$$a_g=\frac{3.61}{Z_0}\sqrt{f}\left[\frac{k_1}{d}+\frac{k_2 k_3}{D}\right]\times10^{-7}(dB/m)$$

$$a_g=9.1\cdot\sqrt{\varepsilon}\cdot\tan\delta\cdot f\times10^{-8}(dB/m)$$

Calculating Expressions of The Constants of Radio Frequency Coaxial Cables

The constants of high frequency coaxial cable are expressed by the following expression for the frequency of over 10MHz：

f: Frequency（Hz）

d: outer diameter of inner conductor（m）

D: Inner diameter of outer conductor（m）

ε : Effective dielectric constant

tan δ : Effective dielectric dissipation factor

ω=2πf: Angular frequency

K1K2: Constants which are determined in accordance with the material composition of the internal and external conductors.

（Copper wire copper tube：1
Strands of copper wire：1.2
Braid copper wire：2–3
Aluminum wire aluminum tube：1.3）

K3:A constant with is determined in accordance with the material composition of the external conductor form.

（Smooth tube：1.0
Corrugated tube：1.2）

Insulation form	ε	tan δ
Solid polyethylene insulation	2.30	2.0×10–4
Foamed polyethylene insulation	1.50	1.5×10–4
Highly foamed polyethylene insulation	1.25	1.0×10–4
Solid PTFE insulation	2.10	2.0×10–4

① Conductor resistance

$$R=83.05\sqrt{f}\left[\frac{k_1}{d}+\frac{k_2 k_3}{D}\right]\times10^{-9}(\Omega/m)$$

② Inductance（The magnetic body is not used in this case）

$$L=0.4605\log_{10}\frac{D}{d}\times10^{-6}(H/m)$$

③ Capacity

$$C=\frac{\varepsilon}{18\ \ln\frac{D}{d}}\times10^{-9}\ \frac{24.13\,\varepsilon}{\log_{10}\frac{D}{d}}\times10^{-12}(F/m)$$

④ Conductance

$$G=2\pi f\cdot C\cdot\tan\delta\ (S/m)$$

⑤ Characteristic impedance

$$Z_0=\frac{60}{\sqrt{\varepsilon}}\ln\frac{D}{d}=\frac{138.1}{\sqrt{\varepsilon}}\log_{10}\frac{D}{d}(\Omega)$$

⑥ Attenuation

$a=a_r+a_g$

a_r: Resistance Attenuation

a_g: Dielectric Attenuation

$$a_g=\frac{3.61}{Z_0}\sqrt{f}\left[\frac{k_1}{d}+\frac{k_2 k_3}{D}\right]\times10^{-7}(dB/m)$$

$$a_g=9.1\cdot\sqrt{\varepsilon}\cdot\tan\delta\cdot f\times10^{-8}(dB/m)$$

⑦相位常数

$$\beta = 20.94\sqrt{\varepsilon} \times 10^{-9} + \frac{0.31\sqrt{\varepsilon}}{\sqrt{f}\log_{10}\frac{D}{d}}\left[\frac{k_1}{d} + \frac{k_2 k_3}{D}\right] \times 10^{-9} (\mathrm{rad/m})$$

⑧传输速率

$$K = \frac{100}{\sqrt{\varepsilon}} (\%)$$

⑨截止频率

$$F_C = \frac{191}{\sqrt{\varepsilon}(d+D)} (\mathrm{MHz})$$

⑦ Phase Constant

$$\beta = 20.94\sqrt{\varepsilon} \times 10^{-9} + \frac{0.31\sqrt{\varepsilon}}{\sqrt{f}\log_{10}\frac{D}{d}}\left[\frac{k_1}{d} + \frac{k_2 k_3}{D}\right] \times 10^{-9} (\mathrm{rad/m})$$

⑧ Velocity of Propagation

$$K = \frac{100}{\sqrt{\varepsilon}} (\%)$$

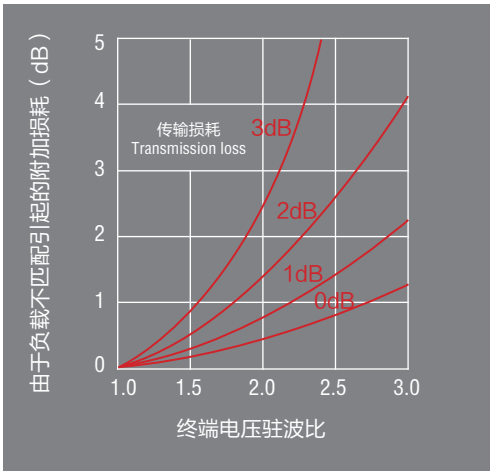
⑨ Cut-off Frequency

$$F_C = \frac{191}{\sqrt{\varepsilon}(d+D)} (\mathrm{MHz})$$

驻波比考虑因素

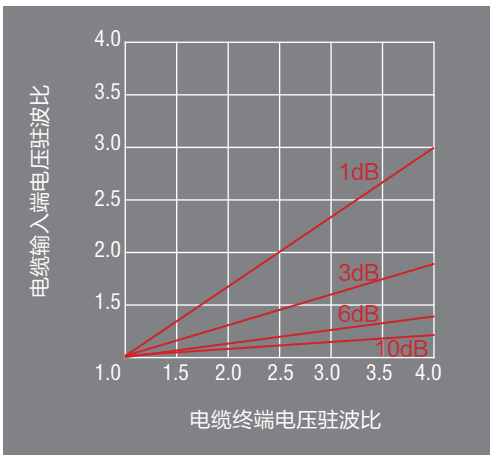
①电压驻波比对传输损耗的影响

当终端设备链接到不匹配的传输线时，传输线损耗会明显增加。下面的曲线显示这种关系。



②传输损耗对电压驻波比的影响

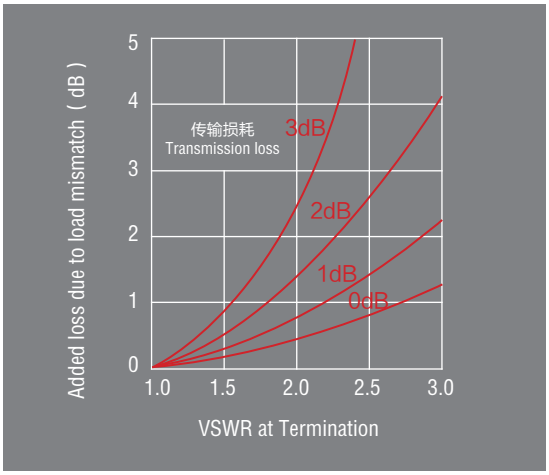
当有一定驻波比的终端设备联接到有损耗的传输线时，传输线输入端的电压驻波比会减小。



VSWR Consideration

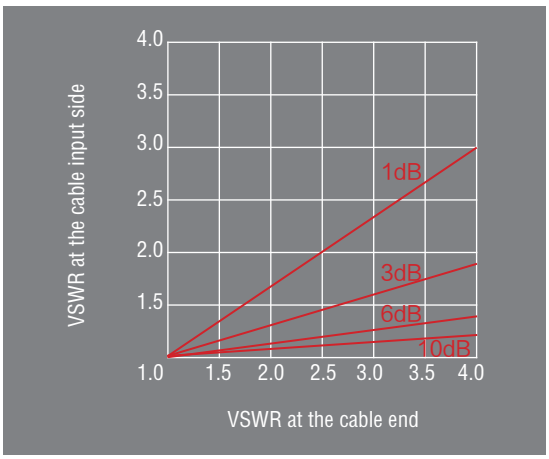
① VSWR Effect on Transmission Loss

In case a terminal equipment is connected to the mismatched transmission line, the transmission loss of the line is apparently increased.



② In case an equipment with the VSWR is connected to the transmission

line having the loss, the VSWR at the input side of the transmission line is reduced.



电压驻波比

表示因阻抗的不匹配而使传输线路上的入射波与反射波重叠而成的合成波（这叫做驻波）的最大值与最小值之比。
电压驻波比（也叫做 VSWR）
S 可由下面的公式求出。

$$S=\frac{1+|\Gamma|}{1-|\Gamma|}$$

Γ 为电压反射系数，由下面的公式定义
$\Gamma=V_R/V_P$
V_R 反射波电压，
V_P 入射波电压

回损 $RL=-20\log|\Gamma|$

要改善 VSWR, 消除阻抗的不匹配面是最为重要的，改善连接器之间的匹配性以及电缆长度方向的均一性是主要目标。

$$\text{Return Loss}(RL)=20\log\frac{VSWR+1}{VSWR-1}$$

Voltage Standing Wave Ratio

It is a ratio of the maximum value and the minimum value of the synthesized wave. An incidence wave and the reflection wave can become in succession (this is called a standing wave), and the ratio of the wave crest of voltage amplitude distribution generated on the transmission line to the wave through can be pierced if there is no adjustment for impedance. The voltage standing –wave ratio S can be found by the next formula. Please see the “Return Loss–VSWR relationship form” in the end of this brochure.

$$S=\frac{1+|\Gamma|}{1-|\Gamma|}$$

Γ This is a voltage reflection coefficient, and it is defined by the next formula.
V_R Reflection wave voltage,
V_P Progressive wave voltage

Return Loss $RL=-20\log|\Gamma|$

The return loss and VSWR can be worked out according to next formula, and if you have one of the values, you can determine the other . It is most important to lose no adjustment on the side of impedance, to better improve VSWR, and further improve uniformity of the match between the connector and the cable in the direction of the length, becoming the main objective.

$$\text{Return Loss}(RL)=20\log\frac{VSWR+1}{VSWR-1}$$

传播速度、延迟时间和缩波系数

高频信号在同轴电缆中传播时，传播速度取决于电介质的介电常数，信号在电介质中传播的速度要比在真空中慢。

$$V=\frac{C}{\sqrt{\varepsilon_r}}(m/s)\quad C=299,792,458\,{}^{m}/_{s}\approx 299,795\,{}^{m}/_{s}\approx 3\times10^{8}\,{}^{m}/_{s}$$

$$V/C=1\sqrt{\varepsilon_r}=T$$

通常称为传输速率，是无量纲的百分数。一般为 65% 至 70%，对发泡介质可达 80% 至 86%。也表现为波长的缩短，其本质仍是传播速度的减慢，同样 $1\sqrt{\varepsilon_r}$ 表达也称为缩波系数（波长缩波率）。
当将传播速度换算为每米电缆的到达时间时，单位用 ns/m 表示，同样在电介质中传播时，其传播延迟时间相应加长。

$$t=1/v=\sqrt{\varepsilon_r}/C=3.33561\times\sqrt{\varepsilon_r}\,(ns/m)$$

当要同时收发大量高速信号时，传输速度及波长缩短引起的信号延迟对传输精度的影响就必须给予足够的关注。

Transfer Velocity, Delay Time and Wavelength Shortening Rate

The velocity of high frequency signals transmits in coaxial cable slower than in air. It depends on dielectric permittivity.

$$V=\frac{C}{\sqrt{\varepsilon_r}}(m/s)\quad C=299,792,458\,{}^{m}/_{s}\approx 299,795\,{}^{m}/_{s}\approx 3\times10^{8}\,{}^{m}/_{s}$$

$$V/C=1\sqrt{\varepsilon_r}=T$$

Usually called transfer rate (Velocity of propagation). Foam dielectric can reach 80% to 86% while 65% to 70% in common. $1\sqrt{\varepsilon_r}$ Called wavelength shortening rate. The signal delay time is the conversion of the velocity of propagation into arrival time per 1m of cable. This unit is shown by ns/m. The signal delay time will increase when transmits in dielectric at the same time.

$$t=1/v=\sqrt{\varepsilon_r}/C=3.33561\times\sqrt{\varepsilon_r}\,(ns/m)$$

It should pay sufficient attention to the accuracy of velocity and wave shortening because it affects sending and receiving large amounts of signals.

截止频率

截止频率可由电缆的尺寸求出。电介质外径越大，截止频率越低，可稳定使用的频率也越低。如果使用频率高于截止频率，外部导体与内部导体之间的间隔就会相对于波长增大，并在到达电场之前发生颠簸的传输紊乱。这意味着发生 TM 模式及 TE 模式的信号成分，有可能无法实现良好的信号传播。

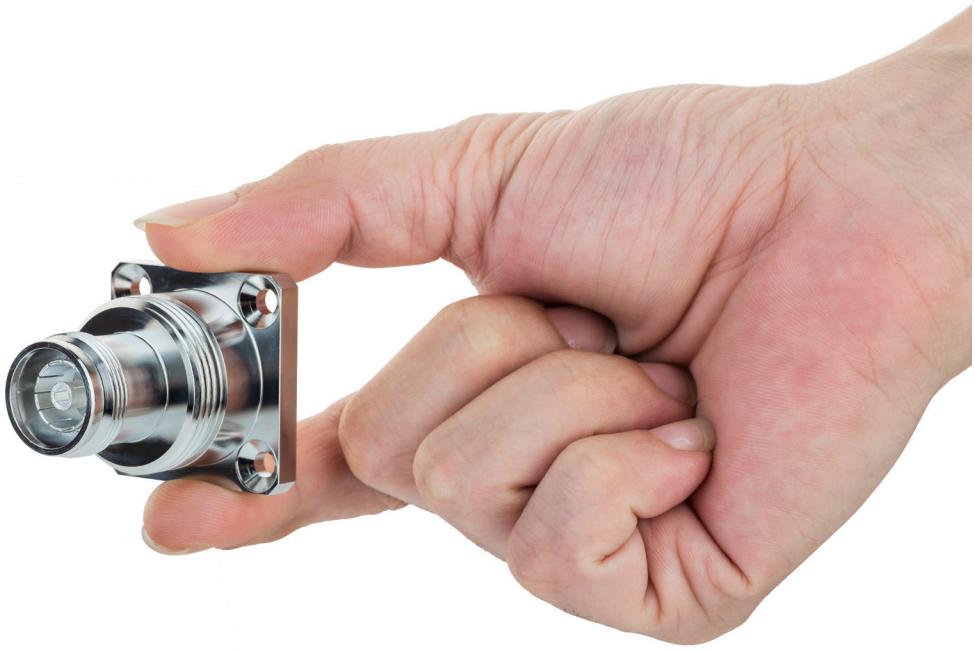
截止频率用下式表示，电介质外径为 Φ3 的同轴电缆约为 35GHz.

$$f=\frac{C}{\pi\cdot\sqrt{\varepsilon_r}\,\frac{(D+d)}{2}}\ (Hz)$$

Cut-off Frequency

The cut-off frequency can be determined according to the size of the cable. The frequency band range can be used decrease with stability and reduces the cut-off frequency depending on the outside diameter of the dielectric substance’s thickness. Distortion of the electrical waves occurs when polarity changes before the electrical field reaches it. The distortion increase because the interval between the external conductor and the internal conductor grows, compared to the wavelengths when using it with a frequency that is higher than the cut-off frequency. This is means there is a generation of the signal elements like the TM mode and the TE mode, etc. increasing the possibility that an excellent signal can not be transmitted, The cut-off frequency is shown by the following formula and becomes about 35GHz when using a coaxial cable with an outside diameter of the dielectric substance of almost Φ3.

$$f=\frac{C}{\pi\cdot\sqrt{\varepsilon_r}\,\frac{(D+d)}{2}}\ (Hz)$$



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