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# Common Fiber Optic Connectors & Adapters & Attenuators

常规光纤连接器&适配器&衰减器产品手册



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# Fiber Optic Connectors

## —— 光纤连接器

光纤连接器，是光纤与光纤之间进行可拆卸（活动）连接的器件，它把光纤的两个端面精密对接起来，以使发射光纤输出的光能量能最大限度地耦合到接收光纤中去，并使由于其介入光链路而对系统造成的影响减到最小，这是光纤连接器的基本要求。在一定程度上，光纤连接器影响了光传输系统的可靠性和各项性能。光纤连接器按照不同型号分类，常见的分类有ST,FC,SC,LC,MU,DIN,D4,E2000,LX,S,SMA,MTRJ,VF-45,MPO/MTP等不同的类型。另外在FTTH系统中经常应用还有快速光纤连接器。

Fiber optic connector is the part that connects two fibers. It precisely connects interface of two fibers, to transmit fiber signals maximally and minimize attenuation from the connection. Somehow, fiber optic connector affects stability and features of transmission. Common fiber optic connectors are: ST, FC, ST, FC, SC, LC, MU, DIN, D4, E2000, LX, S, SMA, MTRJ, VF-45, MPO/MTP. And in FTTH systems, there're fast field connectors.

# ST SERIES FIBER OPTIC CONNECTOR

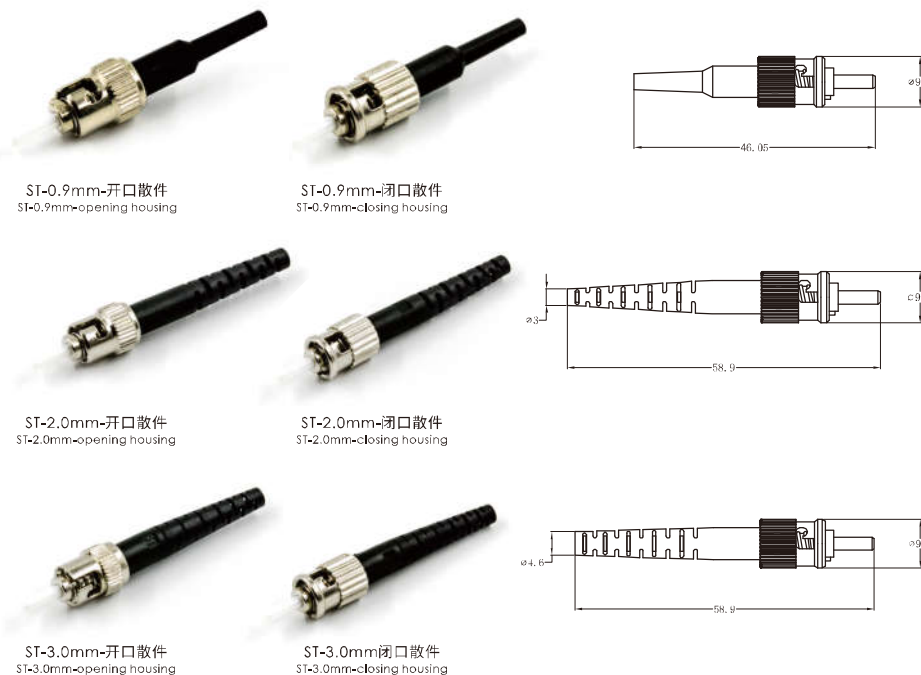


## ST系列光纤连接器

ST光纤连接器选型表  
/ Ordering Information Yellow(customized)

型号 Model	外框类型 Housing	外框材料 Housing material	尾套颜色 Color of boot	适用线径 Fiber cable	插芯类型 Ferrule
ST/UPC (ST没有APC) ST/UPC (No APC for ST)	开口 闭口 Opening Closed	锌合金 PBT塑料 Zinc alloy PBT	红色 黑色 黄色(需订制) 蓝色(需订制) Red Black Yellow(customized) Blue(customized)	Φ0.9mm Φ2.0mm Φ3.0mm	陶瓷插芯 金属插芯 Ceramic Metal
示例 For example	ST/UPC 开口 锌合金 黑尾 Φ3.0mm 陶瓷单模插芯 光纤软件连接器 ST/UPC connector, opening housing zinc alloy black boot, Φ3.0mm, SM ceramic ferrule				

ST光纤连接器实物图 / Images  
不同外框类型和适用线径的ST散件  
/ Different housings and cables



不同尾套颜色的ST散件  
/Boots with different colors



塑料外框的ST散件  
/Plastic housings



金属插芯的ST散件  
/Metal ferrule



ST光纤连接器性能参数表/ Specification

技术指标 Items	SM		MM	
	UPC(无APC类型)陶瓷 UPC (no APC) ceramic	陶瓷 Ceramic	金属 Metal	任意孔径订制 Any diameter (customized)
插芯类型 Ferrules				
插芯内径 Inner diameter of ferrules	125.5um	127.0um		
插损损耗 Insertion loss	@1310nm, ≤0.2db	@850nm, ≤0.2db		
回损损耗 Return loss	@1310nm, ≥55.0db	≥35.0db		
工作温度 Working temperature	-40~+58°C			
储存温度 Storage temperature	-40~+58°C			

# FC SERIES FIBER OPTIC CONNECTOR



## FC系列光纤连接器

FC光纤连接器选型表  
/Ordering Information

型号 Model	外框材料 Housing material	尾套类型 Boot	尾套颜色 Color of boot	适用线径 Fiber cable	插芯类型 Ferrule
FC	锌合金 铜合金 zinc alloy copper alloy	实心尾套 长镂空尾套 solid hollowed-out boot	红色 黑色 黄色(需订制) 蓝色(需订制) Red Black Yellow(customized) Blue(customized)	Φ0.9mm Φ2.0mm Φ3.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM UPC 陶瓷插芯 SM UPC 金属插芯 SM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC Metal MM UPC
示例 For example	FC/APC单模陶瓷插芯 锌合金实心黑色尾套Φ2.0mm 光纤散件连接器 FC/APC connector, SM ceramic ferrule, zinc alloy, solid black boot, Φ2.0mm,				

FC光纤连接器实物图/ Images

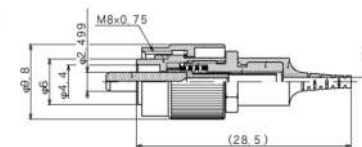
不同尾套类型和适用线径的FC散件  
/Different boots and cables



FC-0.9mm-实心尾散件  
FC-0.9mm-solid boot



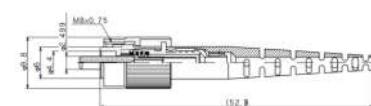
FC-0.9mm-长镂空尾散件  
FC-0.9mm-long hollowed-out boot



FC-2.0mm-实心尾散件  
FC-2.0mm-solid boot



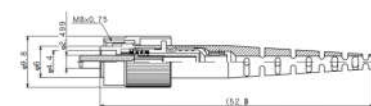
FC-2.0mm-长镂空尾散件  
FC-2.0mm-long hollowed-out boot



FC-3.0mm-实心尾散件  
FC-3.0mm-solid boot



FC-3.0mm-长镂空尾散件  
FC-3.0mm-long hollowed-out boot



不同尾套颜色的FC散件  
/Boots with different colors



金属插芯的FC散件  
/Metal ferrule



FC光纤连接器性能参数表  
/Specification

技术指标 Items	SM		MM	
	插芯类型 Ferrules	UPC陶瓷 UPC-Ceramic	APC陶瓷 APC-Ceramic	UPC陶瓷 UPC-Ceramic
插芯内径 Inner diameter of ferrules	125.5um		127.0um	任意孔径订制 Any diameter (customized)
插损损耗 Insertion loss	@1310nm, ≥0.2db		@850nm, ≤0.2db	
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db	
工作温度 Working temperature	-40~+58°C			
储存温度 Storage temperature	-40~+58°C			

# SC SERIES FIBER OPTIC CONNECTOR



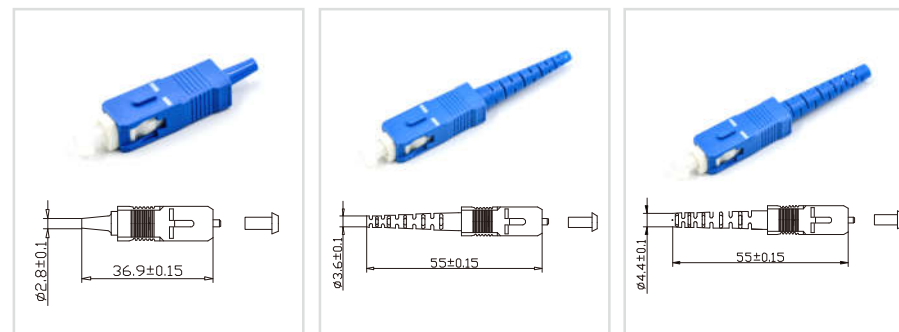
## SC系列光纤连接器

Sc光纤连接器选型表  
/Ordering Information

型号 Model	外框颜色 Color of housing	尾套颜色 Color of boot	双工夹颜色 (选配) Color of Duplex clip (optional)	适用线径 Fiber cable	插芯类型 Ferrule
SC	蓝色 (SM/UPC) 绿色 (SM/APC) 灰白色 (MM) 水蓝色 (OM3) 枚红色 (OM4) 黑色 (定制)	蓝色 (SM/UPC) 绿色 (SM/APC) 灰白色 (MM) 水蓝色 (OM3) 枚红色 (OM4) 黑色 (定制) 大红色 (定制)	蓝色 (SM/UPC) 绿色 (SM/APC) 灰白色 (MM) 水蓝色 (OM3) 枚红色 (OM4) 黑色 (定制) 透明色 (定制)	Φ0.9mm Φ2.0mm Φ3.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM UPC 陶瓷插芯 MM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC
示例 For example	SC/APC 单模 绿色双工带绿色双工夹Φ2.0mm 光纤散件连接器 SC/APC connector, SM, duplex, green, with duplex clip, Φ2.0mm				

SC光纤连接器实物图/ Images

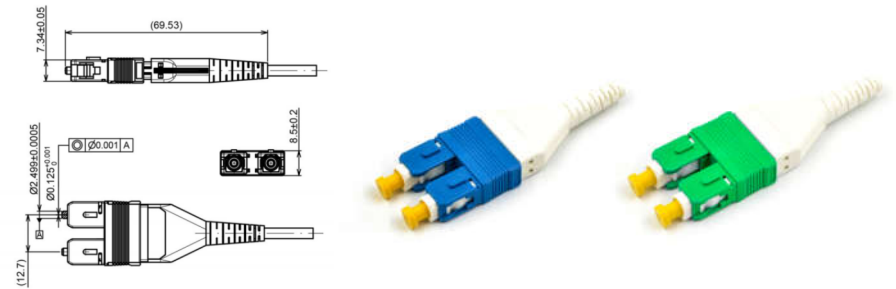
不同适用线径的SC散件  
/For different cables



不同外框和尾套颜色的SC散件  
/Different housing colors



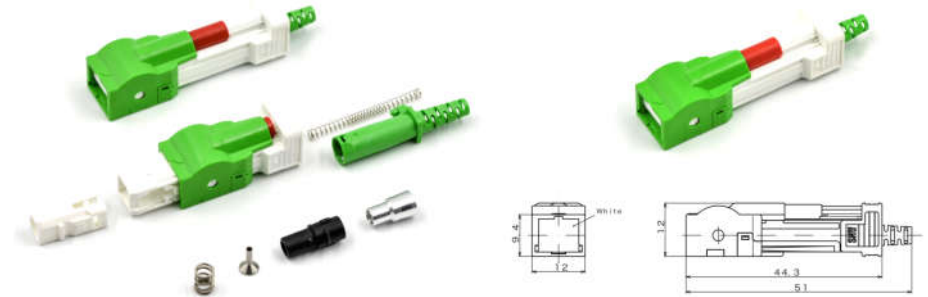
Unibool一体式双工SC散件  
/Unitboot



不同双工夹颜色的SC散件  
/Duplex clips with different colors



自动伸缩防尘式SC散件  
/SC auto shutter connector



不同防尘帽款式的SC散件  
/For different dust caps



带链防尘帽  
Cap with chain

橡胶全包式防尘帽  
Rubber full covered cap

SC光纤连接器性能参数表  
/Specification

技术指标 Items	SM		MM
	插芯类型 Ferrules	UPC	APC
插芯内径 Inner diameter of ferrules	125.5um		127.0um
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db
工作温度 Working temperature	-40~+58°C		
储存温度 Storage temperature	-40~+58°C		

# LC SERIES FIBER OPTIC CONNECTOR



· 光纤连接器  
Fiber Optic Connectors



## LC系列光纤连接器

LC光纤连接器选型表  
/ Ordering Information

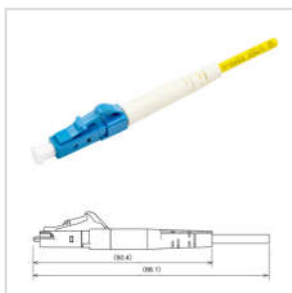
型号 Model	外框颜色 Color of housing	尾套颜色 Color of boot	双工夹颜色(选配) Color of Duplex clip (optional)	适用线径 Fiber cable	插芯类型 Ferrule
LC	蓝色(SM/UPC) 绿色(SM/APC) 灰白色(MM) 水蓝色(OM3) 枚红色(OM4) 黑色(定制) Blue(SM/UPC) Green(SM/APC) Beige(MM) Aqua(OM3) Rose red(OM4) Black(customized)	蓝色(SM/UPC) 绿色(SM/APC) 灰白色(MM) 水蓝色(OM3) 枚红色(OM4) 黑色(定制) 大红色(定制) Blue(SM/UPC) Green(SM/APC) Beige(MM) Aqua(OM3) Rose red(OM4) Black(customized) Bright red(customized)	蓝色(SM/UPC) 绿色(SM/APC) 灰白色(MM) 水蓝色(OM3) 枚红色(OM4) 黑色(定制) Blue(SM/UPC) Green(SM/APC) Beige(MM) Aqua(OM3) Rose red(OM4) Black(customized)	Φ0.9mm Φ2.0mm Φ3.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM APC 陶瓷插芯 MM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC
示例 For example	LC/APC 单模 锌合金 绿色双工带绿色双工夹Φ2.0mm 光纤散件连接器 LC/APC connector, SM, duplex, green, with duplex clip, Φ2.0mm				

LC光纤连接器实物图/ Images

不同适用线径的SC散件  
/For different cables



LC-0.9mm散件  
LC-0.9mm



LC-2.0mm散件  
LC-2.0mm

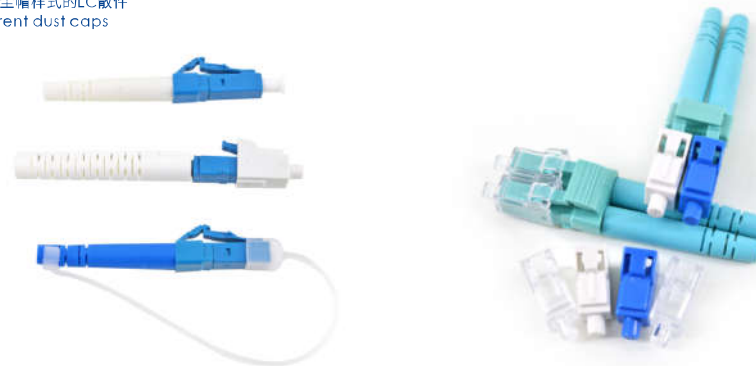


LC-3.0mm散件  
LC-3.0mm

不同外框颜色的LC散件  
/Different housing colors



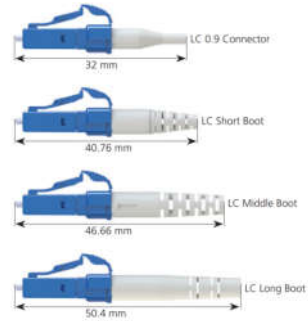
不同防尘帽样式的LC散件  
/Different dust caps



LC不同尾套颜色  
/ Boots with different colors



LC不同尾套长短  
/ Boots with different lengths



LC不同尾套弯曲度  
/ Angled boots



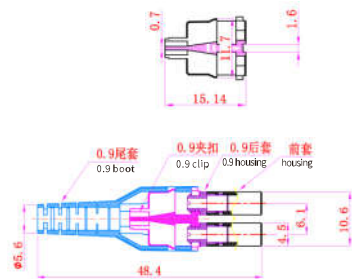
90°

45°

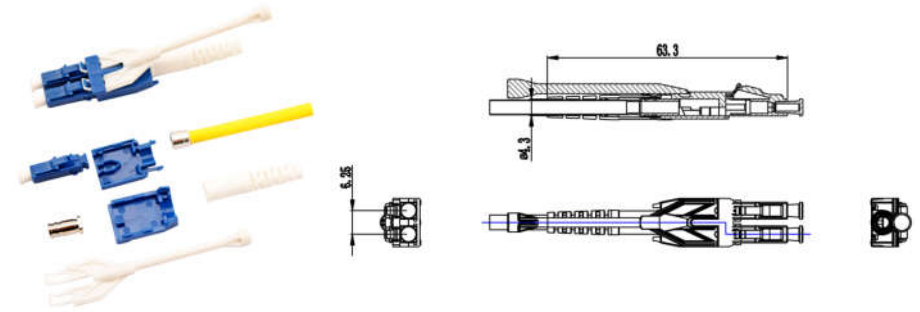
可调角度  
adjustable degree

特殊LC光纤散件连接器 Uncommon LC connectors

1. LC常规款Uniboot双工光纤连接器  
/ LC Uniboot duplex connector



2. LC带拉杆款Uniboot双工光纤连接器  
/ LC Uniboot duplex connector- with pull tab

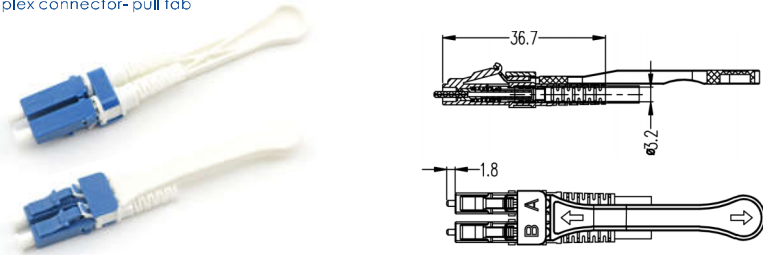


3. LC可互换款Uniboot双工光纤连接器  
/ LC Switchable Uniboot Duplex Connector





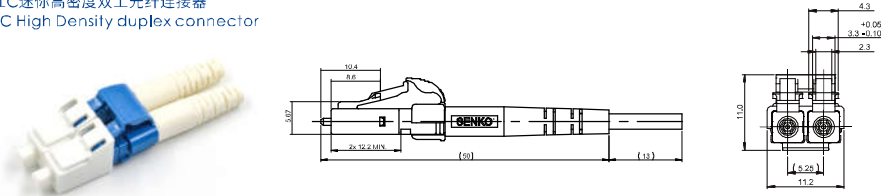
4. LC带拉杆款双工光纤连接器  
/ LC duplex connector- pull tab



5. LC带拉杆款单工光纤连接器  
/ LC simplex connector- pull tab



6. LC迷你高密度双工光纤连接器  
/ LC High Density duplex connector



LC光纤连接器性能参数表  
/ Specification

技术指标 Items	SM		MM
	插芯类型 Ferrules	UPC	APC
插芯内径 Inner diameter of ferrules	125.5um		127.0um
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db
工作温度 Working temperature	-40~+58°C		
储存温度 Storage temperature	-40~+58°C		

# OTHER TYPES FIBER OPTIC CONNECTORS

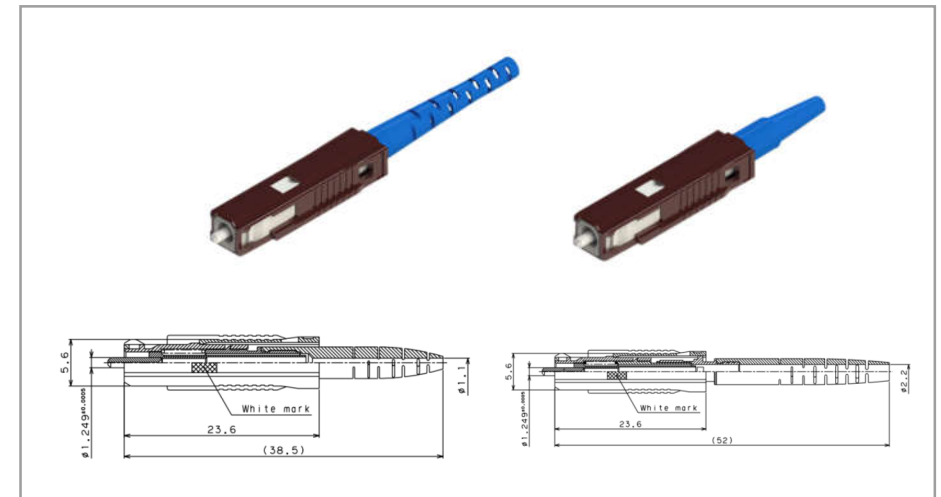


## 其他类型光纤连接器

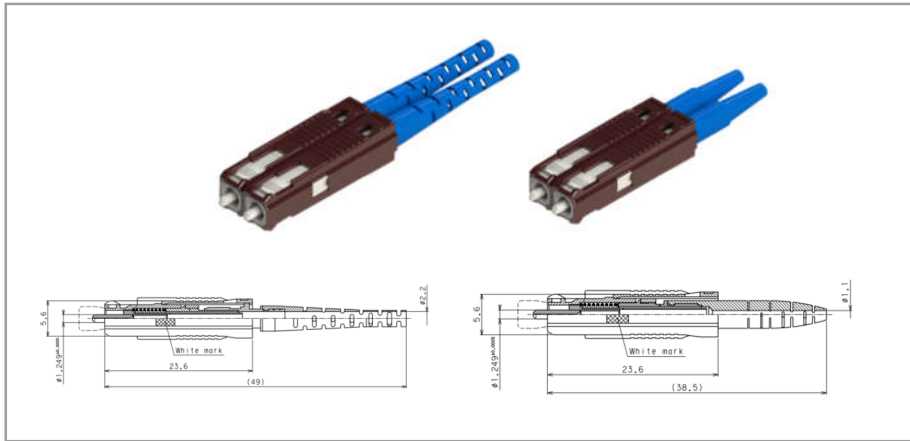
MU光纤连接器选型表  
/ Ordering Information

型号 Model	外框颜色 Color of housing	尾套颜色 Color of boot	外壳材料 Material of housing	适用线径 Fiber cable	插芯类型 Ferrule
MU	棕色 (SM/UPC) 绿色 (SM/APC) 白色 (MM) 黑色 (定制) 大红色 (定制) Brown (SM/UPC) Green (SM/APC) Brown (MM)	蓝色 (SM/UPC) 绿色 (SM/APC) 白色 (MM) 黑色 (定制) 大红色 (定制) Blue (SM/UPC) Green (SM/APC) Bright red (customized)	PHPR	Φ0.9mm Φ2.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM APC 陶瓷插芯 MM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC
示例 For example	MU/UPC 单模 Φ2.0mm 光纤散件连接器 MU/UPC connector, SM, Φ2.0mm				

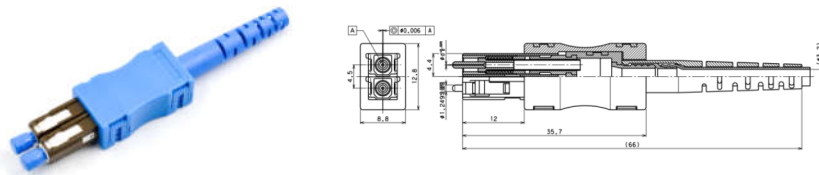
MU单工光纤连接器实物图  
/MU simplex connector



MU双工光纤连接器实物图  
/MU duplex fiber optic connector



MU双工光纤连接器实物图  
/MU uniboot duplex fiber optic connector



MU光纤连接器性能参数表  
/Specification

技术指标 Items	SM		MM
	插芯类型 Ferrules	UPC	APC
插芯内径 Inner diameter of ferrules	125.5um		127.0um
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db
工作温度 Working temperature	-40~+58°C		
储存温度 Storage temperature	-40~+58°C		

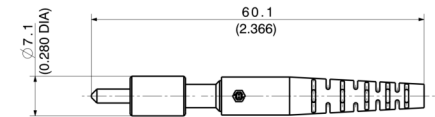
DIN光纤连接器选型表  
/Ordering Information- DIN Fiber Optic Connector

型号 Model	外框材料 Housing material	尾套类型 Boot	尾套颜色 Color of boot	适用线径 Fiber cable	插芯类型 Ferrule
DIN	锌合金 Zinc alloy	长镂空尾套 Long hollowed-out boot	蓝色 白色 绿色 黑色 Blue Beige Green Black	φ0.9mm φ2.0mm φ3.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM APC 陶瓷插芯 MM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC
示例 For example	DIN/APC 单模 φ2.0mm光纤散件连接器 DIN/APC connector, SM, φ2.0mm				

DIN光纤连接器实物图/Images



DIN光纤连接器尺寸图/Drawing



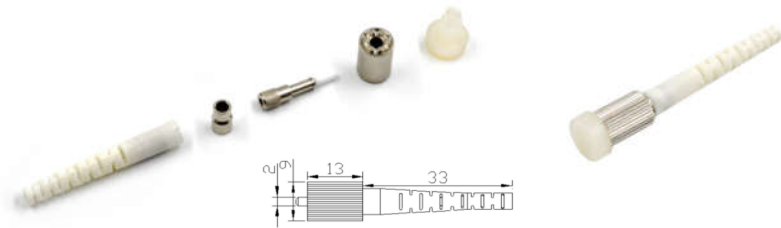
DIN光纤连接器性能参数表  
/Specification

技术指标 Items	SM		MM
	插芯类型 Ferrules	UPC	APC
插芯内径 Inner diameter of ferrules	125.5um		127.0um
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db
工作温度 Working temperature	-40~+58°C		
储存温度 Storage temperature	-40~+58°C		

D4光纤连接器选型表  
/ Ordering Information of D4 Fiber Optic Connector

型号 Model	外框材料 Housing material	尾套类型 Boot	尾套颜色 Color of boot	适用线径 Fiber cable	插芯类型 Ferrule
D4	锌合金 Zinc alloy	长镂空尾套 Long hollowed-out boot	蓝色 白色 绿色 黑色 Blue Beige Green Black	Φ0.9mm Φ2.0mm Φ3.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM APC 陶瓷插芯 MM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC
示例 For example	D4单模Φ2.0mm光纤散件连接器 D4 SM Φ2.0mm connector				

D4光纤连接器实物图/ Images



D4光纤连接器性能参数表  
/ Specification

技术指标 Items	SM	MM
插芯类型 Ferrules	UPC	UPC
插芯内径 Inner diameter of ferrules	125.5um	127.0um
插损损耗 Insertion loss	@1310nm, ≤0.2db	@850nm, ≤0.2db
回损损耗 Return loss	≥55.0db	≥35.0db
工作温度 Working temperature	-40~+58°C	
储存温度 Storage temperature	-40~+58°C	

SMA光纤连接器选型表  
/ Ordering Information of SMA Fiber Optic Connector

型号 Model	外框材料 Housing material	尾套类型 Boot	尾套颜色 Color of boot	适用线径 Fiber cable	插芯类型 Ferrule
SMA905 SMA906	铜合金圆形外框 铜合金六角外框 Zinc alloy-round housing Copper alloy-hexangular housing	长镂空尾套 Long hollowed-out boot	黑色 Black	Φ2.0mm Φ3.0mm	905 UPC金属插芯 905 台阶式金属插芯 (PS:SMA系列插芯不 分单多模,插芯内孔 直径任意定制) 905 UPC- metal ferrule 905 UPC- ceramic ferrule 906 UPC- stepped metal ferrule (PS: there's no SM or MM for SMA); and inner diameter of ferrule is customized)
示例 For example	SMA905金属插芯200um内孔孔径Φ2.0mm光纤散件连接器 SMA 905 connector, metal ferrule / 200um, Φ2.0mm				

SMA光纤连接器实物图/ Images



SMA光纤连接器性能参数表  
/ Specification

技术指标 Items	905		906
插芯类型 Ferrules	平面/陶瓷 Flat/ Ceramic	平面/金属 Flat/ Metal	台阶/金属 Stepped/ Metal
插芯内径 Inner diameter of ferrules	任意定制孔径 Customized		任意定制孔径 Customized
插损损耗 Insertion loss	@1310nm≤0.2db		@850nm≤0.2db
回损损耗 Return loss	@1310nm≥55db		@850nm≥35db
工作温度 Working temperature	陶瓷:-40~+58°C, 金属:-40~+80°C Ceramic :-40~+58°C, Metal:-40~+80°C		
储存温度 Storage temperature	陶瓷:-40~+58°C, 金属:-40~+80°C Ceramic :-40~+58°C, Metal:-40~+80°C		

MTRJ光纤连接器选型表  
/ Ordering Information of MTRJ Fiber Optic Connector

型号 Model	外框材料 Housing material	尾套类型 Boot	尾套颜色 Color of boot	适用线径 Fiber cable	插芯类型 Ferrule
MTRJ	塑料外框 Plastic	长镂空尾套 Long hollowed-out boot	黑色 Black	Φ2.0mm DX	MM 母头 MM 公头 SM 母头 SM 公头 MM Female MM Male SM Female SM Male
示例 For example	MTRJ Φ2.0mm DX公头 MM光纤散件连接器 MTRJ connector, Φ2.0mm, DX, MM Male				

MTRJ光纤连接器实物图/Images



MTRJ光纤连接器性能参数表  
/ Specification

技术指标 Items	SM		MM	
	公头/带PIN针 Male/with pin	母头/无PIN针 Female/without pin	公头/带PIN针 Male/with pin	母头/无PIN针 Female/without pin
插芯类型 Ferrules				
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db	
回损损耗 Return loss	≥55.0db		≥35.0db	
工作温度 Working temperature	-40~+58°C			
储存温度 Storage temperature	-40~+58°C			

VF-45光纤连接器选型表  
/ Ordering Information of VF-45 Fiber Optic Connector

型号 Model	外框材料 Housing material	尾套类型 Boot	尾套颜色 Color of boot	适用线径 Fiber cable	插芯类型 Ferrule
VF 45	塑料外框 Plastic	长镂空尾套 Long hollowed-out boot	黑色 Black	Φ2.0mm DX	MM多模 SM单模 MM SM
示例 For example	VF-45 Φ2.0mm DX MM光纤散件连接器 VF connector, Φ2.0mm, DX, MM				

VF-45光纤连接器实物图/Images



VF-45光纤连接器性能参数表  
/ Specification

技术指标 Items	SM		MM	
	公头/带PIN针 Male/with pin	母头/无PIN针 Female/without pin	公头/带PIN针 Male/with pin	母头/无PIN针 Female/without pin
插芯类型 Ferrules	UPC		UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.3db		@850nm, ≤0.3db	
回损损耗 Return loss	≥55.0db		≥35.0db	
工作温度 Working temperature	-40~+58°C			
储存温度 Storage temperature	-40~+58°C			

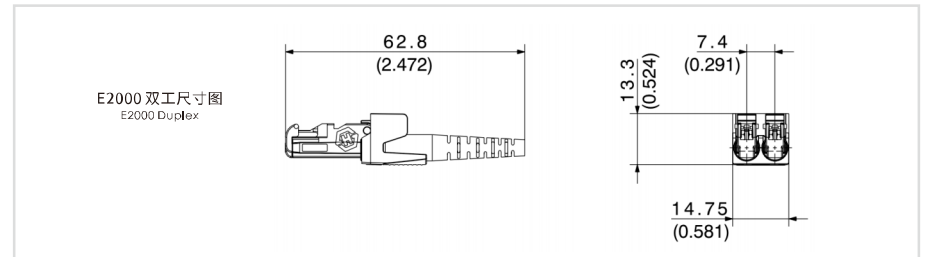
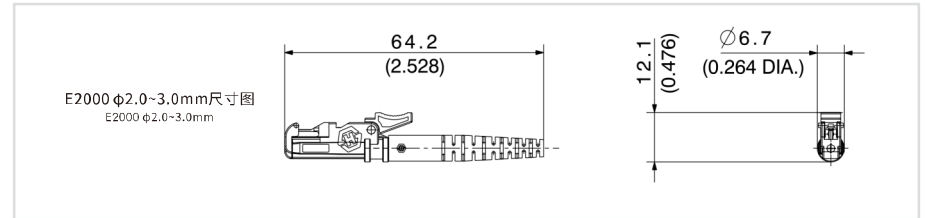
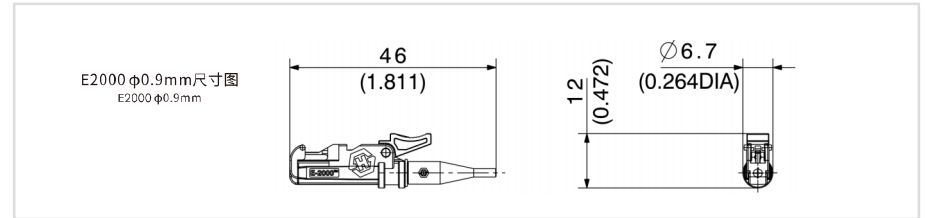
E2000光纤连接器选型表  
/Ordering Information of E2000 Fiber Optic Connector

型号 Model	外框颜色 Color of housing	尾套颜色 Color of boot	双工夹颜色(选配) Color of duplex clip(optional)	适用线径 Fiber cable	插芯类型 Ferrule
E2000	蓝色(SM/UPC) 绿色(SM/APC) 灰白色(MM) Blue(SM/UPC) Green(SM/APC) Beige(MM)	蓝色(SM/UPC) 绿色(SM/APC) 灰白色(MM) Blue(SM/UPC) Green(SM/APC) Beige(MM)	黑色(定制) 透明乳白(定制) Black(customized) Transparent(customized)	Φ0.9mm Φ2.0mm Φ3.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM APC 陶瓷插芯 MM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC
示例 For example	E2000/APC 单模 绿色单工 Φ 2.0mm 光纤散件连接器 E2000/APC connector, SM, simplex, green, Φ2.0mm				

E2000光纤连接器实物图/Images



E2000光纤连接器产品尺寸图/Drawings



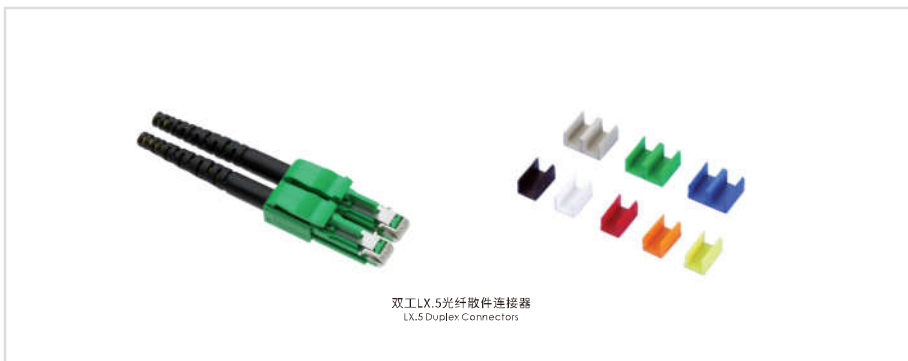
E2000光纤连接器性能参数表  
/Specification

技术指标 Items	SM		MM
	插芯类型 Ferrules	UPC	APC
插芯内径 Inner diameter of ferrules	125.5um		127.0um
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db
工作温度 Working temperature	-40~+58°C		
储存温度 Storage temperature	-40~+58°C		

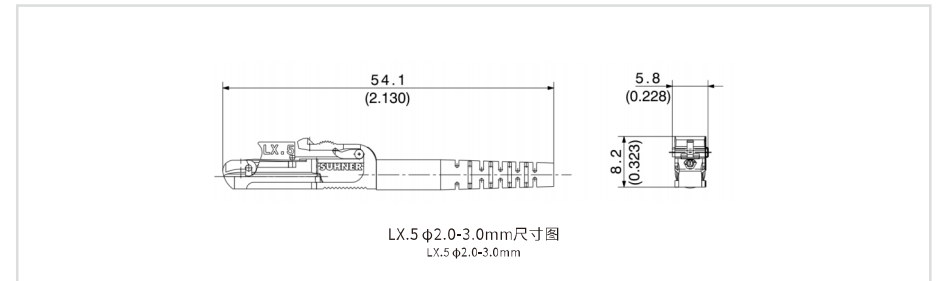
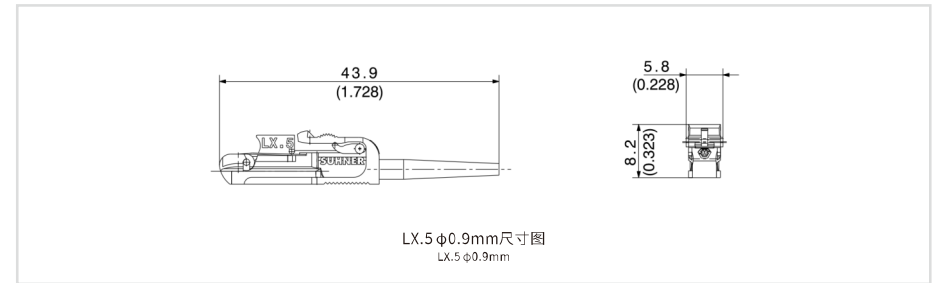
LX.5 光纤连接器选型表  
/Ordering Information of LX.5 Fiber Optic Connector

型号 Model	外框颜色 Color of housing	尾套颜色 Color of boot	双工夹颜色 (选配) Color of duplex clip (optional)	适用线径 Fiber cable	插芯类型 Ferrule
LX.5	蓝色 (SM/UPC) 绿色 (SM/APC) 灰白色 (MM) Blue (SM/UPC) Green (SM/APC) Beige (MM)	黑色 Black	蓝色 (SM/UPC) 绿色 (SM/APC) 灰白色 (MM) 白色 (定制) Blue (SM/UPC) Green (SM/APC) Beige (MM) White (customized)	Φ0.9mm Φ2.0mm Φ3.0mm	陶瓷插芯 SM UPC 陶瓷插芯 SM APC 陶瓷插芯 MM UPC Ceramic SM UPC Ceramic SM APC Ceramic MM UPC
示例 For example	LX.5/UPC 单模 蓝色单工Φ2.0mm 光纤散件连接器 LX.5/UPC connector, SM, simplex, blue, Φ2.0mm				

LX.5 光纤连接器实物图 / Images



LX.5 光纤连接器尺寸图 / Drawings



LX.5 光纤连接器性能参数表 Specification

技术指标 Items	SM		MM
	插芯类型 Ferrules	UPC	APC
插芯内径 Inner diameter of ferrules	125.5um		127.0um
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db
工作温度 Working temperature	-40~+58°C		
储存温度 Storage temperature	-40~+58°C		

# FAST FIELD CONNECTOR



## 快速光纤连接器

SC快速光纤连接器/SC fast field connector

IH-FAC-1001系列  
/IH-FAC-1001



产品型号 Items	SC预埋式 FAC-1001 SC Pre-polished type, FAC-1001		产品长度 Length	52mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥500db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

IH-FAC-1002系列  
/IH-FAC-1002



产品型号 Items	SC预埋式 FAC-1002 SC Pre-polished type, FAC-1002		产品长度 Length	52mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db	
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

·光纤连接器  
Fiber Optic Connectors



IH-FAC-1003系列  
/IH-FAC-1003



产品型号 Items	SC预埋式 FAC-1003 SC Pre-polished type, FAC-1003		产品长度 Length	53mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db	
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

IH-FAC-1004系列  
/IH-FAC-1004



产品型号 Items	SC预埋式 FAC-1004 SC Pre-polished type, FAC-1004		产品长度 Length	55mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

IH-FAC-1005系列  
/IH-FAC-1005



产品型号 Items	SC预埋式 FAC-1005 SC Pre-polished type, FAC-1005		产品长度 Length	59mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

IH-FAC-2002系列  
/IH-FAC-2002



产品型号 Items	SC预埋式 FAC-2002 SC Pre-polished type, FAC-2002		产品长度 Length	55mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	皮线缆 FTTH drop cable

IH-FAC-2001系列  
/IH-FAC-2001



产品型号 Items	SC预埋式 FAC-2001 SC Pre-polished type, FAC-2001		产品长度 Length	52mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	皮线缆 FTTH drop cable

IH-FAC-2003系列  
/IH-FAC-2003



产品型号 Items	SC预埋式 FAC-2003 SC Pre-polished type, FAC-2003		产品长度 Length	54mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.2db		@850nm, ≤0.2db	
回损损耗 Return loss	≥55.0db	≥65.0db	≥35.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	皮线缆 FTTH drop cable



IH-FAC-3001系列  
/IH-FAC-3001



产品型号 Items	SC预埋式 FAC-3001 SC Pre-polished type, FAC-3001		产品长度 Length	52mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ0.9/2/3mm

IH-FAC-3002系列  
/IH-FAC-3002



产品型号 Items	SC预埋式 FAC-3002 SC Pre-polished type, FAC-3002		产品长度 Length	56mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ0.9/2/3mm

IH-FAC-3003系列  
/IH-FAC-3003



产品型号 Items	SC预埋式 FAC-3003 SC Pre-polished type, FAC-3003		产品长度 Length	61mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ0.9/2/3mm

LC快速光纤连接器/LC fast field connector

IH-FAC-1201系列  
/IH-FAC-1201



产品型号 Items	LC预埋式 FAC-1201 LC Pre-polished type, FAC-1201		产品长度 Length	37mm
插芯类型 Ferrules	SM UPC	SM APC	MM UPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	200次 200 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ0.9mm

IH-FAC-ZLC系列  
/IH-FAC-ZLC



产品型号 Items	LC直通式 FAC-ZLC LC Un-polished type, FAC-ZLC		产品长度 Length	65mm
插芯类型 Ferrules	SMUPC		MMUPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.5db		@850nm, ≤0.5db	
回损损耗 Return loss	≥50.0db		≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

IH-FAC-1102



产品型号 Items	FC预埋式 FAC-1102 FC Pre-polished type, FAC-1102		产品长度 Length	58mm
插芯类型 Ferrules	SMUPC	SMAPC	MMUPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

FC快速光纤连接器

IH-FAC-1101



产品型号 Items	FC预埋式 FAC-1101 FC Pre-polished type, FAC-1101		产品长度 Length	53mm
插芯类型 Ferrules	SMUPC	SMAPC	MMUPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm

IH-FAC-3101



产品型号 Items	FC预埋式 FAC-3101 FC Pre-polished type, FAC-3101		产品长度 Length	56mm
插芯类型 Ferrules	SMUPC	SMAPC	MMUPC	
插芯内径 Inner diameter of ferrules	125.5um		127.0um	
插损损耗 Insertion loss	@1310nm, ≤0.35db		@850nm, ≤0.35db	
回损损耗 Return loss	≥50.0db	≥60.0db	≥30.0db	
工作温度 Working temperature	-40~+85°C		插拔次数 Mating times	500次 500 times
储存温度 Storage temperature	-40~+85°C		适用线径 Fiber cables	Φ2-3mm



# Fiber Optic Adapters

## — 光纤适配器

光纤连接器是光纤通信系统中使用量最多的光无源器件，大多数的光纤连接器是由三个部分组成的：两个光纤接头和一个耦合器。两个光纤接头装入两根光纤尾端；耦合器起对准套管的作用。另外，耦合器多配有金属或非金属法兰，以便于连接器的安装固定。光纤适配器按照型号分类与光纤连接器一样，分为ST, FC, SC, LC, MU, DIN, D4, E2000, LX.5, SMA, MTRJ, VF-45, MPO/MTP等不同型号，按照结构的不同，又可分为混合转接适配器（又分母转母异型转接适配器，公母阴阳转接适配器），裸光纤适配器。

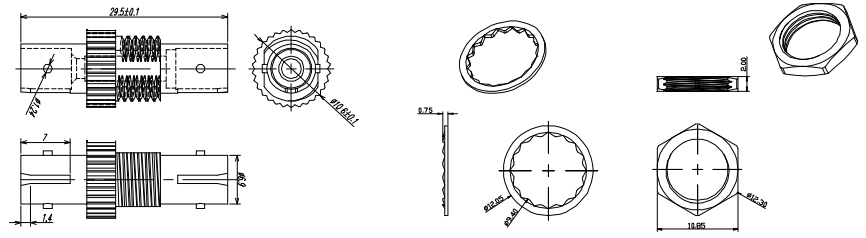
Fiber optic connection is the mostly used passive device in fiber optic communication systems, and normally it's composed with three parts: two fiber optic connectors and an adapter. The two fiber optic connectors are loaded into two fibers. Normally adapters come with metal or plastic flange housings, to fix the connectors. For adapter, there are types of ST, FC, SC, LC, MU, DIN, D4, E2000, LX.5, SMA, MTRJ, VF-45, MPO/MTP, etc. With different structure, there are types of hybrid adapter (female to female & female to male), and bare fiber adapter.

# ST SERIES FIBER OPTIC ADAPTER



## ST系列光纤适配器

圆形ST光纤适配器 /Round type

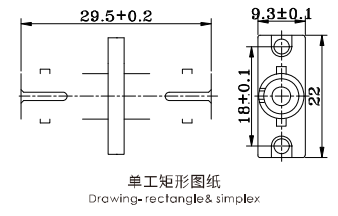


矩形ST光纤适配器 /Rectangle type



金属单工矩形 Metal

塑料单工矩形 Plastic

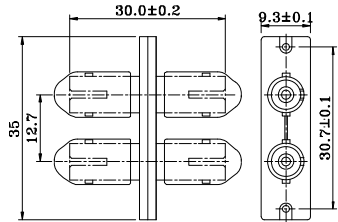


单工矩形图纸 Drawing-rectangle & simplex



金属双工矩形 Metal & Duplex

塑料双工矩形 Plastic & Duplex



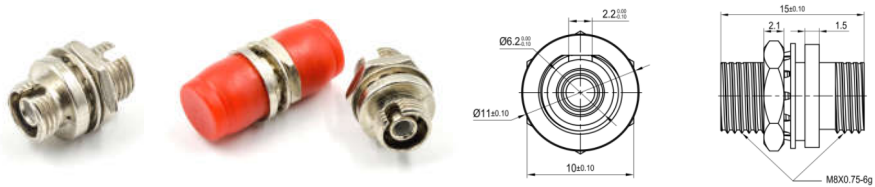
双工矩形图纸 Drawing-rectangle & duplex

# FC SERIES FIBER OPTIC ADAPTER

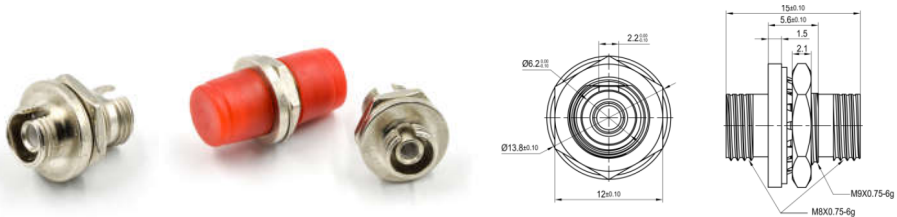


## FC系列光纤适配器

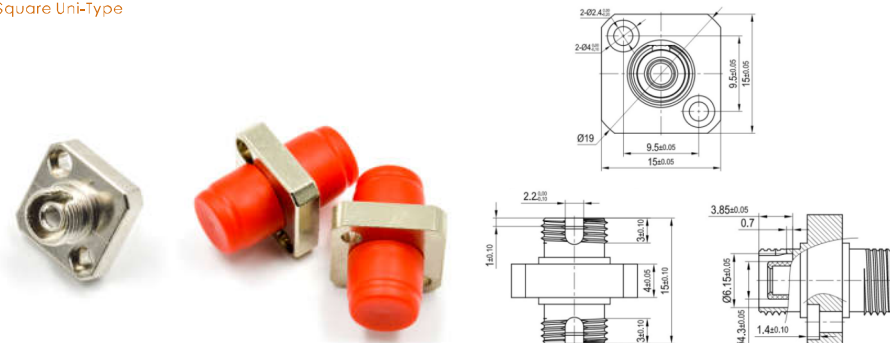
圆形FC小D光纤适配器  
/Double D type



圆形FC大D光纤适配器  
/D shape

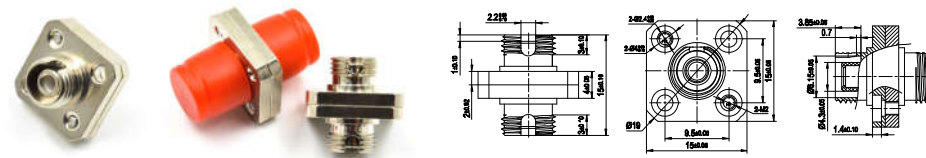


方形一体FC光纤适配器  
/Square Uni-Type



## ·光纤适配器 Fiber Optic Adapters

方形分体FC光纤适配器  
/Square Separated-Type



矩形单工FC光纤适配器  
/Rectangle Simplex Type



金属单工矩形一体式  
Rectangle Simplex Uni-Type-Metal

半塑料单工矩形分体式  
Rectangle Simplex Separated-Type-Plastic

塑料单工矩形分体式  
Rectangle Simplex Separated-Type-Plastic



金属单工矩形一体式  
Rectangle Simplex Uni-Type-Metal

半塑料单工矩形分体式  
Rectangle Simplex Separated-Type-Plastic

塑料单工矩形分体式  
Rectangle Simplex Separated-Type-Plastic

金属双工矩形分体式  
/Rectangle Duplex Separated-Type-Metal



# SC SERIES FIBER OPTIC ADAPTER



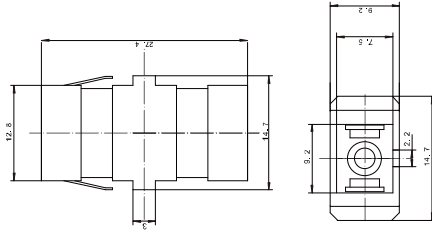
## SC系列光纤适配器

SC单工光纤适配器  
/ Simplex

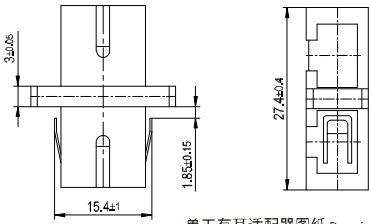


单工无耳  
Simplex without flange

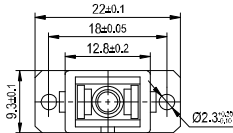
单工有耳  
Simplex with flange



单工无耳适配器图纸  
Drawing-simplex without flange



单工有耳适配器图纸 Drawing-simplex with flange

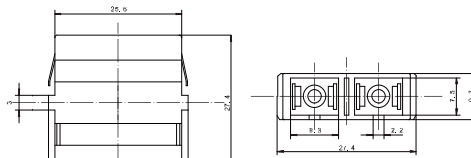


SC双工光纤适配器  
/ Duplex

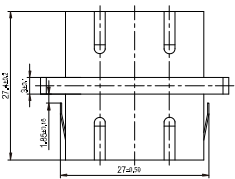


双工无耳  
Duplex without flange

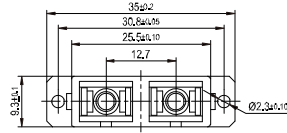
双工有耳  
Duplex with flange



双工无耳光纤适配器图纸  
Drawing-duplex without flange



双工有耳光纤适配器图纸  
Drawing-duplex with flange



· 光纤适配器  
Fiber Optic Adapters



不同颜色的SC光纤适配器  
/ With different colors



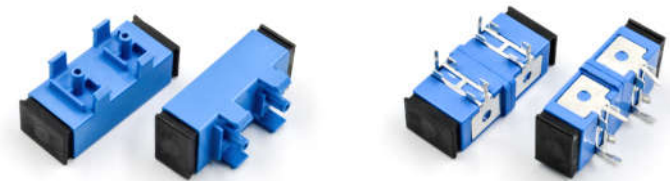
金属外框SC光纤适配器  
/ Metal housing



带盖SC光纤适配器  
/ With shutters



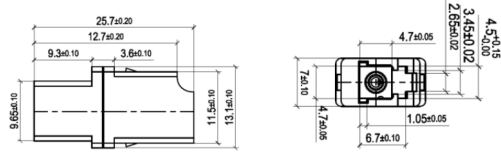
特殊底座SC光纤适配器  
/ With bases



# LC SERIES FIBER OPTIC ADAPTER

## LC系列光纤适配器

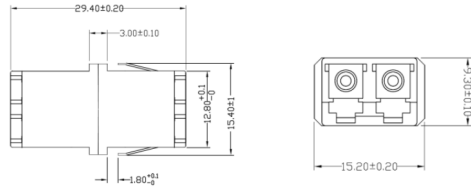
LC单工光纤适配器  
/ Simplex



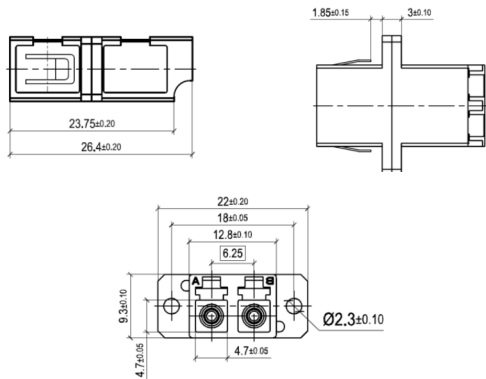
LC双工光纤适配器  
/ Duplex



LC双工SC形无耳适配器  
Duplex-SC shape without flange



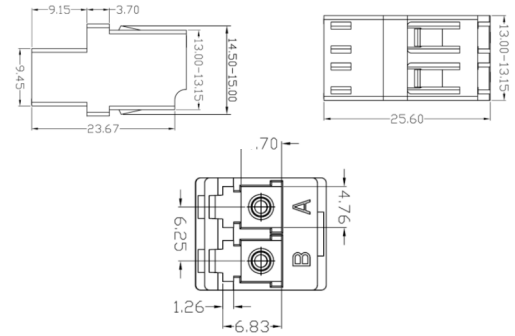
LC双工SC形有耳适配器  
Duplex-SC shape with flange



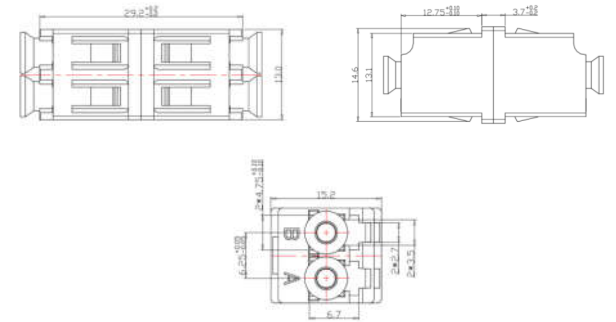
· 光纤适配器  
Fiber Optic Adapters



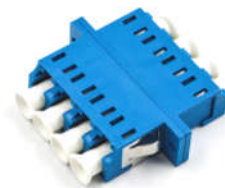
LC双工不等高适配器  
Duplex- single card hook



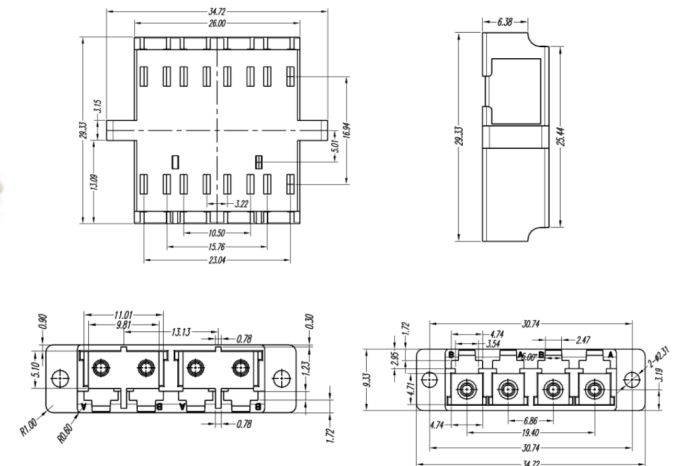
LC双工等高适配器  
Duplex- double card hook

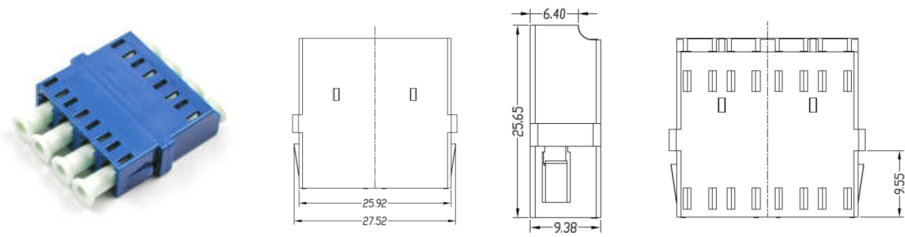


LC四联光纤适配器  
/ Quad



LC四联有耳适配器  
Quad-with flange





LC四联无耳适配器  
Quad- without flange

不同颜色的LC光纤适配器  
/With different colors



金属外框LC光纤适配器  
/Metal



带盖LC光纤适配器 With shutters



45°底座LC光纤适配器  
With 45° base

# OTHER TYPES OTHER TYPES FIBER OPTIC ADAPTER

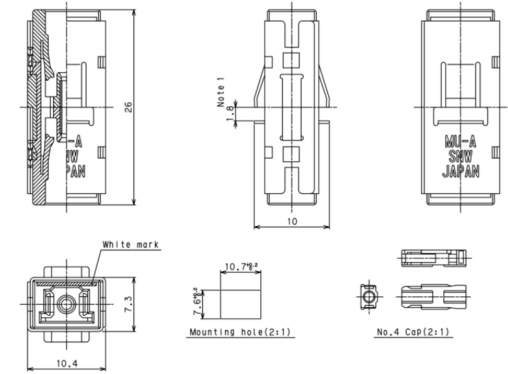


## 其它类型光纤适配器

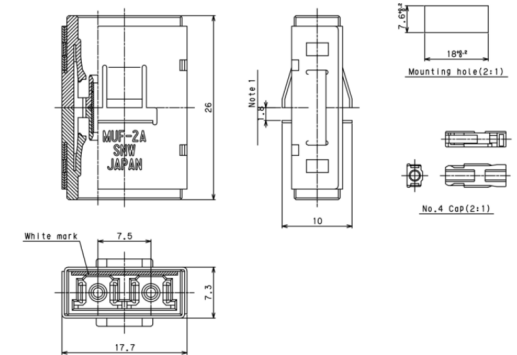
MU光纤适配器  
/MU Fiber Optic Adapter



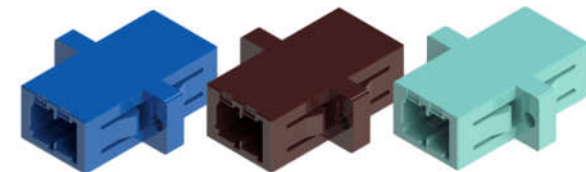
MU单工适配器  
Simplex



MU双工适配器  
Duplex



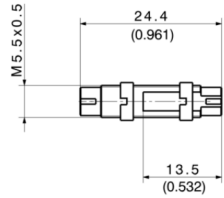
MU双工SC型适配器  
Duplex-SC shape



DIN 光纤适配器  
/DIN Fiber Optic Adapter



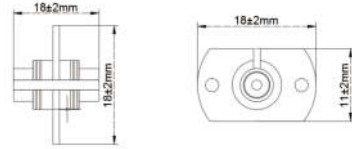
DIN 圆形单工适配器  
Simplex & Round



DIN 矩形单工适配器  
Simplex & Rectangle



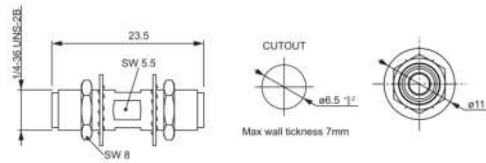
D4 光纤适配器  
/D4 Fiber Optic Adapter



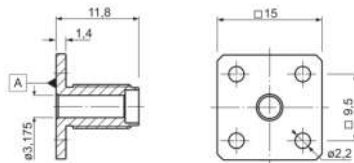
SMA 光纤适配器  
/SMA Fiber Optic Adapter



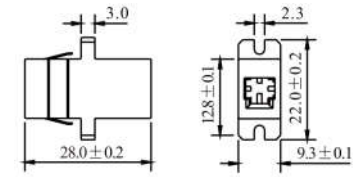
SMA 圆形单工适配器  
Simplex & Round



SMA 方形单工适配器  
Simplex & Square



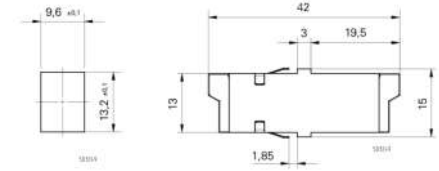
MTRJ 光纤适配器  
/MTRJ Fiber Optic Adapter



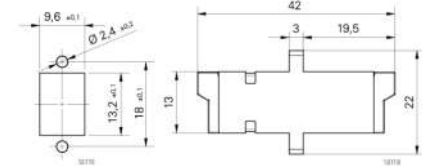
E2000 光纤适配器  
/E2000 Fiber Optic Adapter



E2000 无耳单工适配器  
Simplex-without flange



E2000 有耳单工适配器  
Simplex-with flange



E2000 无耳双工适配器  
Duplex-without flange



FIBER OPTIC ADAPTERS

FIBER OPTIC ADAPTERS



# HYBRID HYBRID TYPES FIBER OPTIC ADAPTERS



## 混合转接型

不同类型的纤维适配器中，一些产品可以实现混合转接，比如SC转FC适配器，LC转ST适配器等，满足不同类型的纤维连接器相互对接需求。混合转接适配器又分为，异型母转母混合转接，异型公转母混合转接。混合转接型号较多，基本满足以下一个条件就可实现混合转接。条件为光纤芯数统一，必须是同一芯数的纤维连接器型号之间才能实现混合转接，比如SC可以转LC，都是单芯连接器。但是SC不能转MTRJ或者MPO，因为相互之间芯数不同。由于混合转接型号可任意定制，种类繁多，下面我们介绍一些常见的混合转接适配器型号，有特殊需求的客户可联系我司定制。

Hybrid fiber optic adapters offer a solution for hybrid applications to connect different connectors. There are types Female to Female, and Male to Female. Most types can be hybridized, but cores of the connectors must be same. For example, the hybrid adapter can be SC-LC, but it can't be SC-MTRJ or MPO. Here we recommend some normal hybrid adapters, uncommon types can be customized.

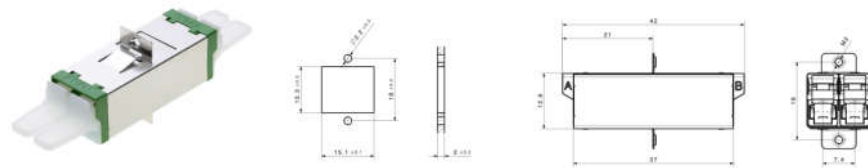
### 异型母转母混合转接适配器选型表

/Ordering Information for female-female hybrid adapters

A端	ST	FC	SC	LC	MU	DIN	D4	E2000	LX.5	SMA
B端	ST	FC-ST	SC-ST	LC-ST	MU-ST	DIN-ST	D4-ST	E2000-ST	LX.5-ST	SMA-ST
		FC	SC-FC	LC-FC	MU-FC	DIN-FC	D4-FC	E2000-FC	LX.5-FC	SMA-FC
			SC	LC-SC	MU-SC	DIN-SC	D4-SC	E2000-SC	LX.5-SC	SMA-SC
				LC	MU-LC	DIN-LC	D4-LC	E2000-LC	LX.5-LC	SMA-LC
					MU	DIN-MU	D4-MU	E2000-MU	LX.5-MU	SMA-MU
						DIN	D4-DIN	E2000-DIN	LX.5-DIN	SMA-DIN
							D4	E2000-D4	LX.5-DR	SMA-D4
								E2000	LX.5-E2000	SMA-E2000
									LX.5	SMA-LX.5

(部分产品为特殊定制，需要起定量/MOQ will be needed for customized types)

### 部分常用异型母转母混合转接适配实物图/Images



E2000有耳双工适配器  
Duplex-with flange

### 不同颜色的E2000光纤适配器 /With different colors



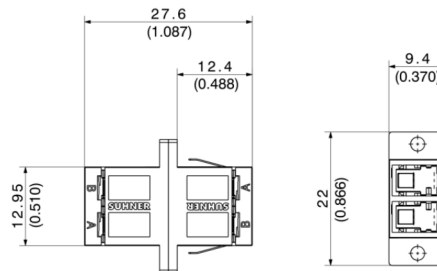
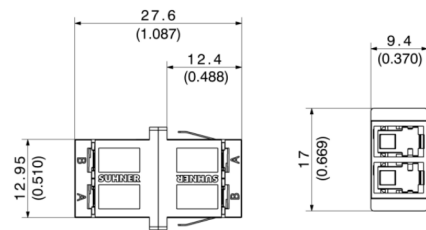
### LX.5光纤适配器 /LX.5 Fiber Optic Adapter



LX.5无耳双工适配器  
Duplex-without flange



LX.5有耳双工适配器  
Duplex-with flange



异型公转母混合转换适配器选型表  
/ Ordering Information for male-female hybrid adapters

F \ M	ST	FC	SC	LC	MU	DIN	D4	E2000	LX.5	SMA
ST	ST MF type	FC/M-ST/F	SC/M-ST/F	LC/M-ST/F	MU/M-ST/F	DIN/M-ST/F	D4/M-ST/F	E2000/M-ST/F	LX.5/M-ST/F	SMA/M-ST/F
FC	ST/M-FC/F	FC MF type	SC/M-FC/F	LC/M-FC/F	MU/M-FC/F	DIN/M-FC/F	D4/M-FC/F	E2000/M-FC/F	LX.5/M-FC/F	SMA/M-FC/F
SC	ST/M-SC/F	FC/M-SC/F	SC MF type	LC/M-SC/F	MU/M-SC/F	DIN/M-SC/F	D4/M-SC/F	E2000/M-SC/F	LX.5/M-SC/F	SMA/M-SC/F
LC	ST/M-LC/F	FC/M-LC/F	SC/M-LC/F	LC MF type	MU/M-LC/F	DIN/M-LC/F	D4/M-LC/F	E2000/M-LC/F	LX.5/M-LC/F	SMA/M-LC/F
MU	ST/M-MU/F	FC/M-MU/F	SC/M-MU/F	LC/M-MU/F	MU MF type	DIN/M-MU/F	D4/M-MU/F	E2000/M-MU/F	LX.5/M-MU/F	SMA/M-MU/F
DIN	ST/M-DIN/F	FC/M-DIN/F	SC/M-DIN/F	LC/M-DIN/F	MU/M-DIN/F	DIN MF type	D4/M-DIN/F	E2000/M-DIN/F	LX.5/M-DIN/F	SMA/M-DIN/F
D4	ST/M-D4/F	FC/M-D4/F	SC/M-D4/F	LC/M-D4/F	MU/M-D4/F	DIN/M-D4/F	D4 MF type	E2000/M-D4/F	LX.5/M-D4/F	SMA/M-D4/F
E2000	ST/M-E2000/F	FC/M-E2000/F	SC/M-E2000/F	LC/M-E2000/F	MU/M-E2000/F	DIN/M-E2000/F	D4/M-E2000/F	E2000 MF type	LX.5/M-E2000/F	SMA/M-E2000/F
LX.5	ST/M-LX.5/F	FC/M-LX.5/F	SC/M-LX.5/F	LC/M-LX.5/F	MU/M-LX.5/F	DIN/M-LX.5/F	D4/M-LX.5/F	E2000/M-LX.5/F	LX.5 MF type	SMA/M-LX.5/F
SMA	ST/M-SMA/F	FC/M-SMA/F	SC/M-SMA/F	LC/M-SMA/F	MU/M-SMA/F	DIN/M-SMA/F	D4/M-SMA/F	E2000/M-SMA/F	LX.5/M-SMA/F	SMA MF type

(部分产品为特殊定制, 需要起定量/ MOQ will be needed for customized types)

备注(Tips): F:Female(母/阴), M:Male(公/阳)

部分常用公母混合转换适配实物图/Images



# BARE FIBER TYPES ADAPTERS



## 裸纤适配器

裸纤适配器是一款特殊的公母适配器, 主要用于光纤检测中。常用的裸纤适配器有FC, SC, LC, ST, SMA等。

Bare fiber type is a male-female adapter, it mainly used in testing, as the link between bare fiber and equipment. The normal types are FC, SC, LC, ST, SMA, etc.

### FC裸光纤适配器/FC



FC圆形裸纤适配器  
FC round bare fiber adapter



FC方形裸纤适配器  
FC square bare fiber adapter

### SC裸光纤适配器FC



SC圆形裸纤适配器  
SC round bare fiber adapter



SC方形裸纤适配器  
SC square bare fiber adapter

### LC裸光纤适配器LC



LC圆形裸纤适配器  
LC round bare fiber adapter



LC方形裸纤适配器  
LC square bare fiber adapter

### ST裸光纤适配器ST



ST圆形裸纤适配器  
ST round bare fiber adapter



ST方形裸纤适配器  
ST square bare fiber adapter

### SMA裸光纤适配器SMA



SMA圆形裸纤适配器  
SMA round bare fiber adapter



SMA方形裸纤适配器  
SMA square bare fiber adapter

# Fiber Optic Attenuators

## —— 光纤衰减器

光纤衰减器是降低光信号能量的一种光器件。用于对输入光功率的衰减，避免了由于输入光功率超强而使光接收机产生的失真。光纤衰减器作为一种光无源器件，用于光通信系统中的调试光功率性能、调试光纤仪表的定标校正，光纤信号衰减。产品使用的是掺有金属离子的衰减光纤制造而成，能把光功率调整到所需要的水平。

光纤衰减器的分类，可按照接头的型号分类，类似光纤适配器分类为FC, SC, ST, LC, MU等。也可按照结构和衰减方式分类，按照结构分为法兰式衰减器（母接母），阴阳式衰减器（公母转接），在线式衰减器（两端出纤加连接器）。按照衰减方式分类为固定式衰减器（衰减值固定不变），机械可调式衰减器（衰减值在一定范围内可调），电压可调式衰减器（衰减值在一定范围内可调）。我们综合这两种分类方式，把衰减器分类为固定法兰式，固定阴阳式，法兰机械可调式，在线机械可调式，电压可调式五种类型。

Fiber Optic Attenuator is a component installed in a fiber optic transmission system that reduces the power in the optical signal. It is often used to limit the optical power received by the photo detector, in order to get the power needed.

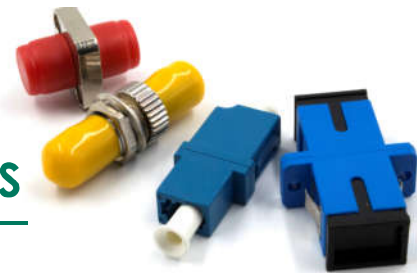
Based on different connectors, the attenuators can be classified as FC, SC, ST, LC, MU, etc. Based on different structures, there are types of flange type (Female to Female), Male to Female, In-line type. Or fixed type (attenuation value can't be adjusted), mechanical variable type (attenuation value can be adjusted in specified range), and voltage variable type (attenuation value can be adjusted in specified range). Here, we classify them as 5 types: Fixed flange type, fixed male-to-female type, flange mechanical variable type, in-line mechanical variable type and voltage variable type.

# FIXED FLANGE TYPE FIBER OPTIC ATTENUATORS

## 固定法兰式

固定法兰式衰减器，衰减值固定不变，衰减值范围0-15db。常用有FC, SC, ST, LC等几种型号。

Attenuation value of this type is fixed with range of 0-15dB. Normally there are types FC, SC, ST, LC.



固定法兰式衰减器产品性能参数表/Specification

项 目 SN	规格参数 Parameter	
	单 模 SM	多 模 MM
测试波长 Wavelength	1310&1550nm	850&1300nm
回波损耗 Return Loss	UPC>50db, APC>60db	≥35db
工作带宽 Operation bandwidth	1250-1650nm	
衰减范围 Attenuation Range	0-15db	
衰减公差 Attenuation Tolerance	0-5db, ±0.5db	
	5-15db, ±10%	
重复性 Repeatability	≤0.1 db	
互换性 Interchangeability	≤0.2db	
插拔性 Push+Pull	插拔1000次, 损耗变化≤0.2db 1000times, Loss≤0.2db	
最大光功率 Max optical power	≤200mW	
工作温度 Operating Temperature	-20°C to +70°C	
储存温度 Storage Temperature	-40°C to +85°C	

# FIXED FIXED MALE-FEMALE TYPE FIBER OPTIC ATTENUATORS



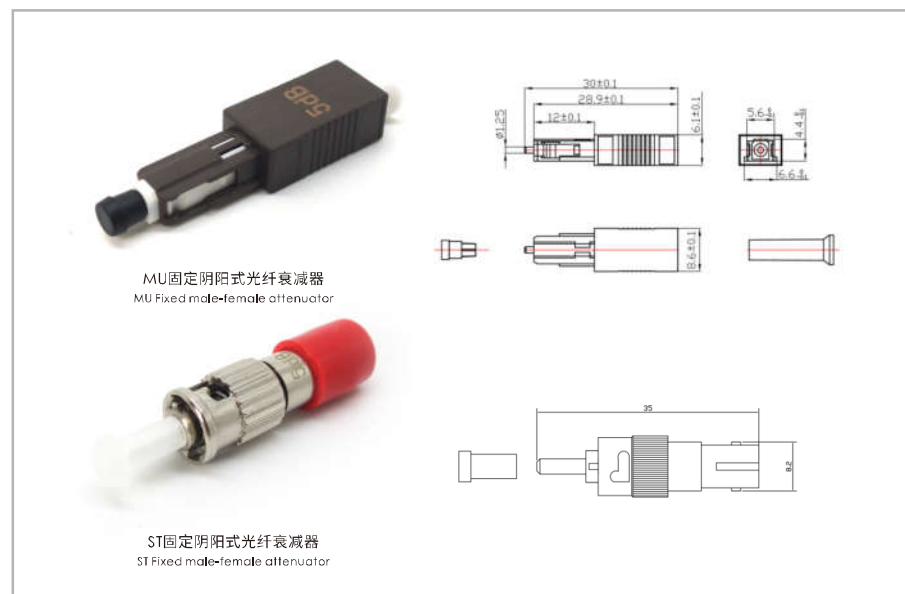
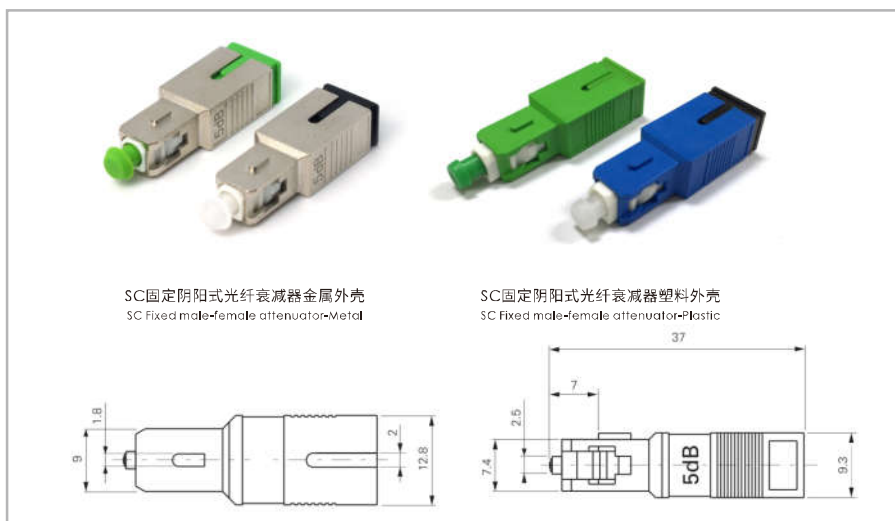
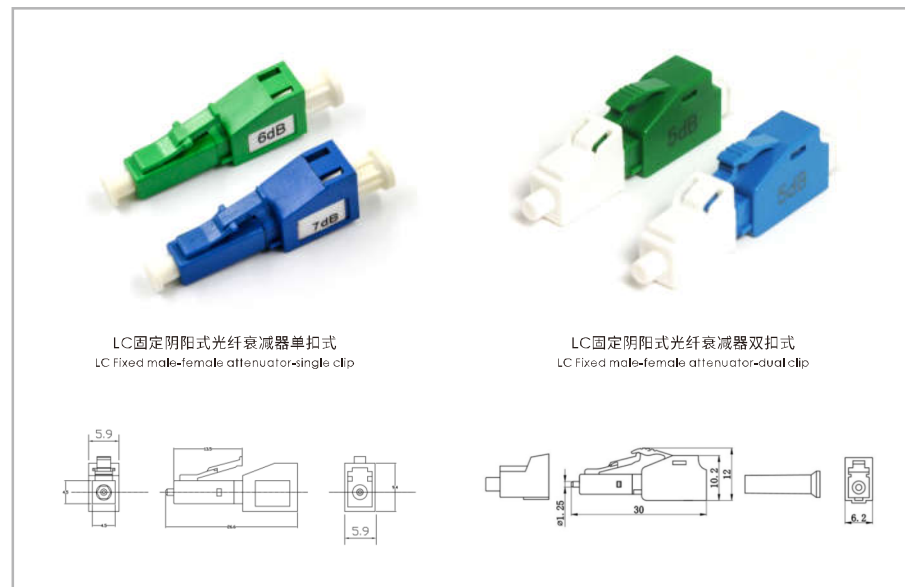
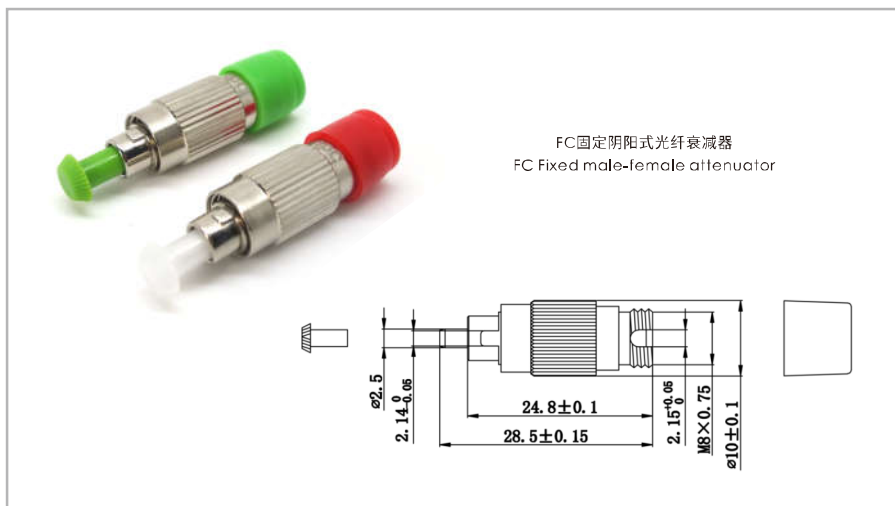
· 光纤衰减器  
Fiber Optic Attenuators

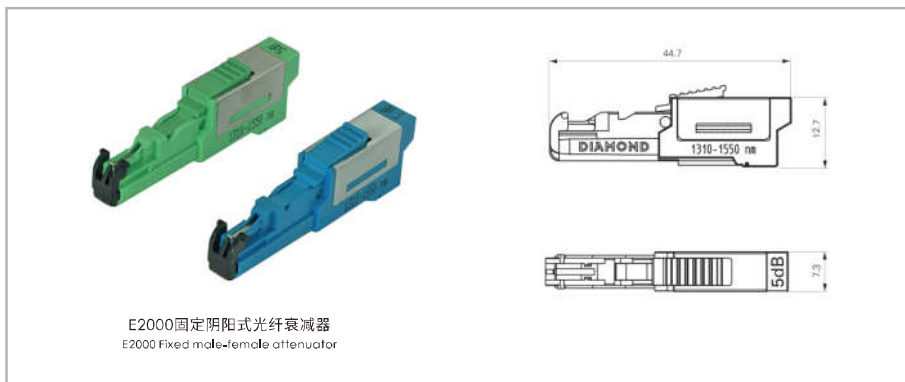


## 固定阴阳式

固定阴阳式衰减器，衰减值固定不变，衰减值范围0-30db。常用有FC, SC, ST, LC, MU等几种型号。

Attenuation value of this type is fixed with range of 0-30dB. Normally there are types FC, SC, ST, LC, MU.





E2000固定阴阳式光纤衰减器  
E2000 Fixed male-female attenuator

固定阴阳式衰减器产品性能参数表/Specification

项目 SN	规格参数 Parameter	
	单模 SM	多模 MM
测试波长 Wavelength	1310&1550nm	850&1300nm
回波损耗 Return Loss	UPC>50db, APC>60db	>35db
工作带宽 Operation bandwidth	1250-1650nm	
衰减范围 Attenuation Range	0-30db	
衰减公差 Attenuation Tolerance	0-5db, ±0.5db	
	5-30db, ±10%	
重复性 Repeatability	≤0.1db	
互换性 Interchangeability	≤0.2db	
插拔性 Push-Pull	插拔1000次, 损耗变化≤0.2db 1000times, Loss≤0.2db	
最大光功率 Max optical power	≤200mW	
工作温度 Operating Temperature	- 20°C to + 70°C	
储存温度 Storage Temperature	- 40°C to + 85°C	

# FLANGE MECHANICAL VARIABLE ATTENUATOR



## 法兰机械可调式

法兰机械可调式衰减器, 衰减值可在指定范围内变化, 衰减值变化范围为0-30db。常用有FC, SC, ST, LC等几种型号。  
Attenuation value of this type can be adjusted with range of 0-30dB. Normally there are types FC, SC, ST, LC, MU.



FC法兰机械可调式  
FC flange mechanical variable attenuator



SC法兰机械可调式  
SC flange mechanical variable attenuator



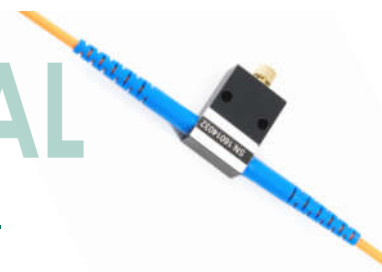
LC法兰机械可调式  
LC flange mechanical variable attenuator



法兰机械可调式衰减器产品性能参数表/Specification

项目 SN	规格参数 Parameter	
	单模 SM	多模 MM
测试波长 Wavelength	1310&1550nm	850&1300nm
回波损耗 Return Loss	UPC≥50db	≥35db
工作带宽 Operation bandwidth	1250-1650nm	
衰减范围 Attenuation Range	0-30db	
重复性 Repeatability	≤0.1 db	
互换性 Interchangeability	≤0.2db	
插拔性 Push-Pull	插拔1000次, 损耗变化≤0.2db 1000times, Loss≤0.2db	
最大光功率 Max optical power	≤200mW	
工作温度 Operating Temperature	- 20°C to + 70°C	
储存温度 Storage Temperature	- 40°C to + 85°C	

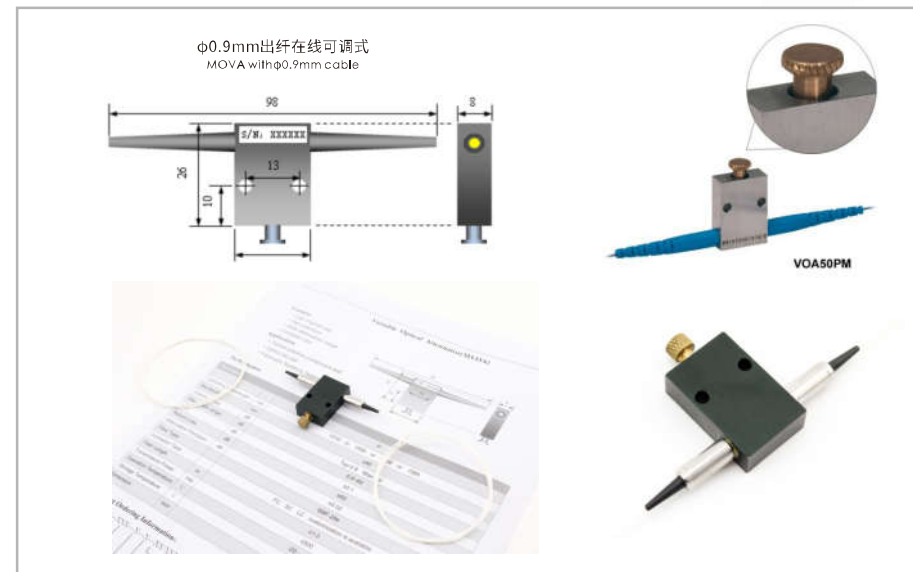
# MECHANICAL VARIABLE OPTICAL ATTENUATOR

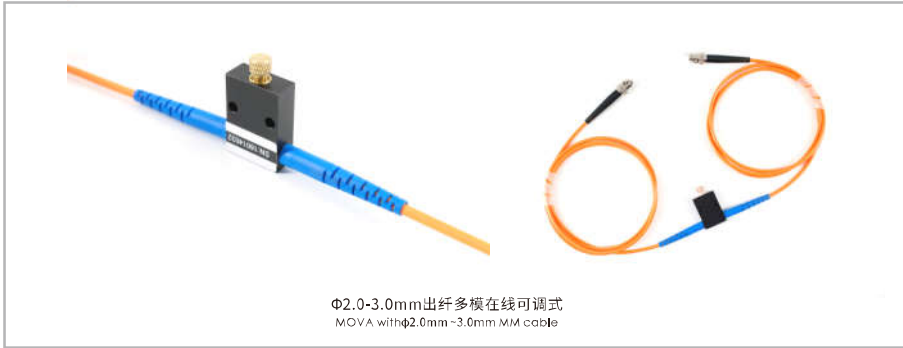


## 在线机械可调式 (MVOA)

在线机械可调式衰减器, 又称MVOA衰减器, 采用扭距隔空衰减方式, 对光损耗衰减值进行调节, 可调范围0-60db。两端可自定义出线长度以及接头型号。

Attenuation value of this type can be adjusted by screwing thread with range of 0-60dB. Connectors and cable length on both sides can be customized.




 Φ2.0-3.0mm出纤多模在线可调式  
MOVA with Φ2.0mm~3.0mm MM cable

在线机械可调式衰减器产品性能参数表/Specification

项目 SN	规格参数 Parameter	
	单模 SM	多模 MM
测试波长 Wavelength	1310&1550nm	850&1300nm
回波损耗 Return Loss	UPC≥50db	≥35db
接头选型 Connectors	FC,SC,LC,ST,MU,DIN,D4,E2000,..etc	
光纤选型 Fibers	SM(OS1,OS2),MM(OM1,OM2,OM3,OM4)可选	
光缆选型 Cable	φ0.9mm,2.0mm,3.0mm..etc, OD can be customized	
工作带宽 Operation bandwidth	1250-1650nm	
衰减范围 Attenuation Range	0-60db	
重复性 Repeatability	≤0.1db	
互换性 Interchangeability	≤0.2db	
插拔性 Push-Pull	插拔1000次,损耗变化≤0.2db 1000times, Loss≤0.2db	
最大光功率 Max optical power	≤200mW	
工作温度 Operating Temperature	- 20°C to + 70°C	
储存温度 Storage Temperature	- 40°C to + 85°C	

# VOLTAGE VARIABLE TYPE



## 电压可调式 (MEMS-DVOA)

电压可调式衰减器, 又称MEMS衰减器, DOVA衰减器。采用电压控制方式, 对光损耗衰减值进行调节, 可调范围0-40db。光接头端可自定义出线长度以及接头型号。基于微机电系统 (MEMS) 的动态可调光衰减器 (Dynamic Variable Optical Attenuator——简称 DVOA) 是实现全光网中功率调节的重要元件。DVOA能够实现对整个光网的全面远程控制。主要应用在: 预置光功率均衡、信道传输均衡、光自动增益调节、光接收器的保护等。我司的DVOA产品, 采用MEMS控制芯片及独特的光学设计, 使产品更加小型化, 成本更低, 并且反应更加迅速, 具有更高的稳定性和可靠性, 易于制造。可靠性是依照Telcordia GR1073检验标准, 通过Telcordia GR1073检验。

Voltage variable attenuator (also named as MEMS/ DVOA) is driven electrical voltage to adjust the power with range of 0~40dB. Connectors and cable length on both sides can be customized. Dynamic Variable Optical Attenuator (DVOA) is driven by Micro-Electromechanical Mechanism System (MEMS), it's important component to realize the optical power controller in the field of AON (All optical Network). Our MEMS DVOA are designed for latest optical network systems with providing low insertion loss, wide attenuation range, flat wavelength dependence and low polarization dependence loss. Applications: OADM and Mux/ DeMux, Optical power controller and equalizer, Amplifier gain control, optical receiver protector, etc.



电压可调式衰减器产品性能参数表/Specification

参数 Parameter	单位 Unit	Ref	备注 Remark
波长范围 Wavelength Range	nm	1530-1625 850-1650	C.L波段/C.L wavelength 定制波段 (客户可选) Customized
衰减类型 Attenuation types		常开或常闭 Open or closed	
衰减范围 Attenuation Range	db	≥30	
最大衰减 Max attenuation value	db	≥45	
插入损耗 Insertion Loss	db	≤0.7 (0.5典型) ≤0.7 (0.5 typical)	不含连接器 No connector
衰减类型 Attenuation types		连续	
波长损耗 Wavelength Loss	db	≤0.3 ≤1.5	based on 0db based on 20db
偏振损耗 PDL	db	≤0.1 ≤0.3	based on 0db based on 20db
温度损耗 Temperature loss	db	≤0.2 ≤1.0	based on 0db based on 20db
回波损耗 Return Loss	db	≥55	
PMD	ps	≤0.1	
响应时间 Responsive Time	ms	≤2 (1典型) ≤2 (1 typical)	10-90%光功率 10-90% power
传输功率 Transmission power	mW	300	
驱动电压 Drive Voltage	VDC	5.2V或15V	5.2V典型30db 5.2V typical 30db
功耗 Power Loss	mW	≤2	
工作温度 Operating Temperature	°C	0 to 70	
储存温度 Storage Temperature	°C	- 40 to 85	