

Standard Fiber Patch Cables Datasheet

Standard Fiber Patch Cables Applications

Fiber optic patch cords are key components for efficient, low-loss optical signal transmission between devices and fiber optic cabling links. One or both ends of the patch cord are equipped with standardized fiber optic connectors, and common interfaces include LC, SC, FC, ST, etc., which can be widely used in data centers, communication base stations, FTTx, local area networks (LANs), fiber to the home (FTTH), and enterprise network cabling.

According to different transmission distances and bandwidth requirements, the products are divided into two categories: single-mode (OS2) and multi-mode (OM2, OM3, OM4, OM5), supporting high-speed network transmission from 1G to 400G/800G. NADDOD patch cords use high-quality low-loss optical fiber and precise ceramic end-face grinding technology. They have the characteristics of low insertion loss, high return loss, bending resistance, and strong stability, which fully meet the requirements of optical connection performance in harsh network environments.

Features

- Available in OS2, OM2, OM3, OM4, and OM5 Fiber
- Available in LC/SC/FC/ST/LSH/MU/MTRJ Connectors
- Available in 0.9/1.2/1.6/1.8/2.0/3.0mm Cable Outside Diameter
- Available in Yellow, Aqua, Orange, Green, and so on Cable Colors
- UPC/APC polishing process, insertion loss as low as $<0.25\text{dB}$, return loss as high as $>60\text{dB}$ (APC)
- 100% factory pre-connection & testing
- Support 1G/10G/25G/40G/100G/400G and other high-speed optical module interconnection
- Provide 0.5m to 100m or more length, jacket optional PVC, LSZH, OFNR, OFNP, Armored
- Optional bend-resistant fiber (BIF) structure
- Applicable to a variety of application scenarios: data centers, computer room wiring, optical fiber distribution frames (ODF), FTTH access, industrial automation communications, etc.

Compliance & Standards

Fiber Optic Connectors and Structure Standards

- IEC 61754
- TIA/EIA-604 (FOCIS)
- IEC 61300

Fiber Optic Transmission Performance Standards

- ISO/IEC 11801
- TIA-568.3-D
- IEC 60793 / IEC 60794

Environmental protection and flame retardant standards

- RoHS 2011/65/EU & 2015/863/EU
- REACH Regulation (EC) No 1907/2006
- UL 94 V-0
- IEC 60332-1 / -3
- UL 1666 / NFPA 262

Technical Specification

Physical Characteristics	Description
Connector Types	LC/SC/ST/FC/LSH/MTRJ/MU with Standard Boots; LC 12mm/18mm with Short Boots; SC 25mm with Short Boots
Polish Type	SMF: UPC-UPC; UPC-APC; APC-APC; MMF: UPC-UPC
Connector Ferrule	Zirconia Ceramic
Cable Outside Diameter	Duplex: 1.6/2.0/3.0mm, Simplex: 0.9/2.0/3.0mm
Interchangeability	$\leq 0.2\text{dB}$
Vibration	$\leq 0.2\text{dB}$

Mechanical Characteristics	Description
Fiber Type	SMF: G.657.A1/G.657.A2; OM5/OM4/OM3/OM2: Bend Insensitive;
Fiber Count	Duplex/ Simplex
Cable Jacket	PVC/(Riser OFNR)/LSZH/Plenum (OFNP)

Optical Characteristics	Description
Connector Insertion Loss	$\leq 0.5\text{dB}$ (Standard), $\leq 0.25\text{dB}$ (Low Loss)
Connector Return Loss	SMF: UPC $\geq 50\text{dB}$, APC $\geq 60\text{dB}$ MMF: UPC $\geq 30\text{dB}$
SMF Attenuation at 1310nm	$\leq 0.4\text{dB/km}$
SMF Attenuation at 1550nm	$\leq 0.3\text{dB/km}$
MMF Attenuation at 850nm	$\leq 3.5\text{dB/km}$
MMF Attenuation at 1300nm	$\leq 1.5\text{dB/km}$

Connector		Housing Color	Boot Color	Polish Type	Jacket Color
LC	SMF	Green	Green	APC	Yellow
	SMF	Blue	White	UPC	Yellow
	OM1 / OM2	Beige	White	UPC	Orange
	OM3 / OM4	Aqua	White	UPC	Aqua
	OM5	Beige	White	UPC	Lime Green
SC	SMF	Green	Green	APC	Yellow

	SMF	Blue	Blue	UPC	Yellow
	OM1 / OM2	Beige	Beige	UPC	Orange
	OM3 / OM4	Aqua	Aqua	UPC	Aqua
FC	SMF	Silver	Green	APC	Yellow
	SMF	Silver	Blue	UPC	Yellow
	OM1 / OM2	Silver	Black	UPC	Orange
	OM3 / OM4	Silver	Aqua	UPC	Aqua
ST	SMF	Silver	Blue	UPC	Yellow
	OM1 / OM2	Silver	Black	UPC	Orange
	OM3 / OM4	Silver	Aqua	UPC	Aqua

Minimum Bend Radius	SMF	MMF
Fiber Cable (Dynamic/Static)	10/5D	20/10D
Fiber Core	G.657.A1: 10mm G.657.A2: 7.5mm	OM1: 15mm OM2/3/4/5: 7.5mm

Tensile Strength (Long Term/Short Term)	Duplex	Simplex
OD 3.0mm	120/225N	80/150N
OD 2.0mm	90/150N	60/100N
OD 1.6mm	90/150N	
OD 0.9mm		3/6N

Environmental Characteristics	Description
Operating Temperature	-20~70°C
Storage Temperature	-40~80°C

End face Geometry

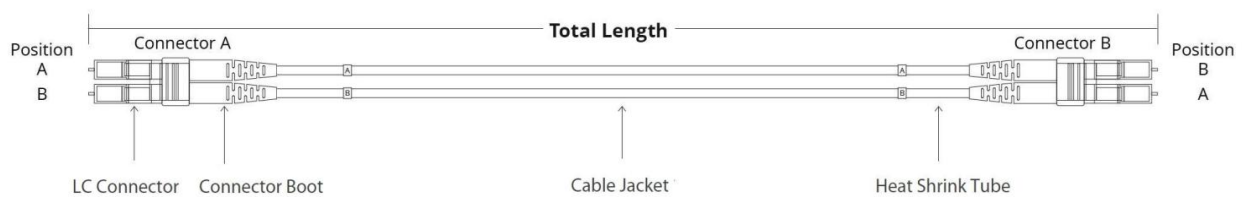
Connector	Parameters	Limits	
		Minimum	Maximum
APC (LC/SC/FC)	ROC(mm)	5.0	12.0
	Fiber Height(nm)	-100.0	100.0
	Apex Offset(um)	0.0	70.0
	Angle(Deg)	7.7	8.3
	Key Error(Deg)	-0.3	0.3
UPC	ROC(mm)	5.0	30.0

(LC/SC/FC/ST)	Fiber Height(nm)	-100.0	100.0
	Apex Offset(um)	0.0	70.0

Notes:

- [1] End face geometry is controlled base on SPC, the yield exceed 95%.
- [2] The minimum Fiber Height(minus maximum fiber undercut) is calculated per below equation; B is the ROC,C is Apex Offset.
for 2.5mm ferrule:- $(1988*B^{(-0.795)} - B*10^6 + (\sqrt{B^2*10^6 - C^2})*10^3 - 60)$
for 1.25mm ferrule:- $(1798*B^{(-0.795)} - B*10^6 + (\sqrt{B^2*10^6 - C^2})*10^3 - 60)$

Technical Drawing



Cable Length Tolerances

Cable Length	Duplex/Simplex
$L < 0.5m$	$L < 10m: +0.1 m / -0 mm$ $L > 10m: +1 \% / -0 mm$
$0.5m < L < 5m$	
$5m < L < 10m$	
$10m < L < 30m$	
$30m < L < 100$	
$L > 100m$	

Ordering Information

Product number	Description
S2LCUD	LC UPC to LC UPC Duplex OS2 Single Mode LSZH 2.0mm Fiber Optic Patch Cable
S2LCUS	LC UPC to LC UPC Simplex OS2 Single Mode LSZH 2.0mm Fiber Optic Patch Cable
S2LCAD	OS2 LC APC to LC APC Duplex LSZH 2.0mm Fiber Patch Cable
S2LCAS	OS2 LC APC to LC APC Simplex LSZH 2.0mm Fiber Patch Cable
S2LCULCAS	OS2 LC UPC to LC APC Simplex LSZH 2.0mm Fiber Patch Cable
S2LCUSCUD	OS2 LC UPC to SC UPC Duplex LSZH 2.0mm Fiber Patch Cable
S2LCUSCUS	OS2 LC UPC to SC UPC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2LCUSCAD	OS2 LC UPC to SC APC Duplex LSZH 2.0mm Fiber Optic Patch Cable
S2LCUSCAS	OS2 LC UPC to SC APC Simplex LSZH 2.0mm Fiber Optic Patch Cable

S2LCASCAS	OS2 LC APC to SC APC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2LCASCAD	OS2 LC APC to SC APC Duplex LSZH 2.0mm Fiber Optic Patch Cable
S2LCUFCUS	OS2 LC UPC to FC UPC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2LCUSTUD	OS2 LC UPC to ST UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
S2LCUSTUS	OS2 LC UPC to ST UPC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2SCAD	OS2 SC APC to SC APC Duplex LSZH 2.0mm Fiber Optic Patch Cable
S2SCUD	OS2 SC UPC to SC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
S2SCUS	OS2 SC UPC to SC UPC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2SCUSCAS	OS2 SC UPC to SC APC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2SCAS	OS2 SC APC to SC APC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2FCUS	OS2 FC UPC to FC UPC Simplex LSZH 2.0mm Fiber Optic Patch Cable
S2STUD	OS2 ST UPC to ST UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
S2SCUSTUD	OS2 SC UPC to ST UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M5LCUD	OM5 LC UPC to LC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M4LCUD	OM4 LC UPC to LC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M4LCUSCUD	OM4 LC UPC to SC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M4LCUDSH	OM4 LC UPC to LC UPC Short Boot Duplex LSZH 2.0mm Fiber Optic Cable
M3LCUDLZ	OM3 LC UPC to LC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M3LCUSCUD	OM3 LC UPC to SC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M2LCUD	OM2 LC UPC to LC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M2SCUD	OM2 SC UPC to SC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M2LCUSCUD	OM2 LC UPC to SC UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable
M2LCUSTUD	OM2 LC UPC to ST UPC Duplex LSZH 2.0mm Fiber Optic Patch Cable

Further Information:

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