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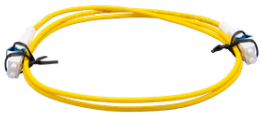
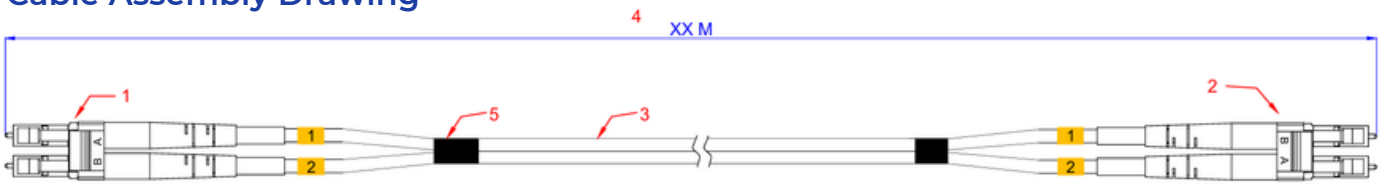
Product specifications

Product Family: Zyberspeed
Category Fiber Optic Patch Cable
Product: LC/UPC-LC/UPC DX SM OS2 3.0mm LSZH Armoured
Article Number: ZS09 Series



Cable Assembly Drawing



Cable Parameter

Tight Buffer Fiber
- Fiber count: 2F
- Diameter: 0.85 ± 0.05 mm

Kevlar
- Material: Imported

Metal Tube
- Diameter: 2.2 ± 0.2 mm
- Material: Metal

Outer Jacket
- Diameter: 3.0 × 6.1 ± 0.2 mm
- Material: LSZH
- Color: Yellow

Specifications

1. LC/UPC Connector (1) 3.0mm
2. LC/UPC Connector (2) 3.0mm
3. 2F 3.0x6.1mm DX SM OS2 LSZH Yellow Cable
4. Length: XX M
5. Heat shrink

Performances

1. Insertion loss: Typical≤0.20dB,Max≤0.30dB
2. Return loss: SM≥50dB,MM≥30dB
3. Durability: <0.2dB,Typical Change:1000 Matings
4. Insert-pull Test: 500times<0.5dB
5. Opearting Temperature: -20˚C to +70˚C

Length Tolerance

Tolerance	L≤500 mm	500 L≤5000 mm	5000 L≤10000 mm	10000 L≤30000 mm	30000 L≤100000 mm	L 100000 mm
MM	+50/-0	+100/-0	+150/-0	+250/-0	+1%L/-0	+1.5%L/-0

Performances

Ethernet Speed	OS2 Max Distance
1Gbps	80km
10Gbps (10GBASE-SR)	100km
40Gbps (40GBASE-SR4)	80km
100Gbps (100GBASE-SR4)	80km
400Gbps (400GBASE-SR8/SR4.2)	40km

Link Budget & Optical Parameters

Connector insertion loss (typical and maximum values)	typical IL ≤0.2dB, and maximum IL≤0.3dB
Return loss (RL, including UPC/APC values)	SM UPC RL ≥50dB, SM APC RL ≥60dB and MM UPC RL ≥30dB
Typical splice loss values	0.12dB, typical 0.04dB
Recommended maximum channel loss / link budget guidelines	
Attenuation (max per km)	• 1310nm: ≤ 0.35 dB/km • 1550nm: ≤ 0.22 dB/km
Chromatic dispersion values	(ps/nm·km at 1310 nm and 1550 nm)
Polarization Mode Dispersion (PMD)	
Wavelength	**OS2 (G.652.D Single-mode)**
850 nm	Not used / irrelevant
1310 nm	−3 ~ +3
1550 nm	+17 ~ +18

Fiber Type	Max Value per Fiber (ps/√km)	Link Design Value (ps/√km)	Typical Value (ps/√km)	Key Notes
OS2 (G.652.D SMF)	≤ 0.1 (Industry/Manufacturer)	≤ 0.06–0.07 (Q=0.01%, M=20)	0.02–0.05	Critical for long-haul, high-speed (10G+ >10km) transmissions; ITU-T G.652.D spec ≤0.2 ps/√km

Connector Specifications

- Available connector types (LC, SC, etc.) LC/SC/FC/ST/E2000
- Connector polish type (UPC or APC) UPC or APC
- End-face geometry compliance (IEC 61755)

Parameter	Compliance Requirement (IEC 61755)
Radius of Curvature	PC: 10–25 mm; UPC:12–20 mm; APC:8–12 mm
Apex Offset	≤ 50 μm (Class B)
Fiber Height	−50 nm to +50 nm
APC Angle	8° ± 0.3°
Surface Defects	Meet IEC 61755 scratch/dig/pit limits

Mechanical Characteristics

- Maximum pulling tension (installation and permanent) 200/400N
- Crush resistance (N/100 mm) 200/500 N/100mm
- Impact resistance rating ≥5J
- Minimum bend radius (clearly specified for dynamic vs static conditions) 20D/10D

Environmental Specifications

- Operating temperature range
- Installation temperature range
- Storage temperature range
- UV resistance (suitability for outdoor use) N/A
- Water/moisture protection (e.g. water blocking) N/A

Installation temperature	℃	-10～+60
Operation temperature	℃	-20～+70
Storage temperature	℃	-20～+70

Fire & Compliance (EU Requirements)

- CPR classification (e.g. B2ca, Cca, Dca) Eca
- Smoke classification (s1/s2) N/A
- Flame spread / fire performance (EN standards) IEC60332-1
- Declaration of Performance (DoP), if available N/A

Standards & Certification

- Explicit ISO/IEC classification (OS2) ISO9001
- TIA compliance (e.g. TIA-492AAAD / TIA-492CAAB) TIA-492AAAD / TIA-492CAAB
- ITU-T compliance confirmation (G.657.A1 or A2 for OS2) G652D/G657A1
- CE, RoHS, and REACH certifications ROHS Reach

Testing & Quality Assurance

- Factory test reports (insertion loss, return loss, OTDR) insertion loss, return loss, for patchcord, OTDR for armoured cable
- Batch or reel-level test documentation Cable Test report

Application Guidance

- Recommended applications (e.g. data center, backbone, FTTH) data center, backbone, FTTH
- Confirmation of indoor/outdoor installation suitability just for indoor

Revision record

Date	version	change Description
May 18, 2026	V.0	First release