

Features and Benefits

The PowerCat 6A Shielded Cable is a key component of the PowerCat 6A end-to-end solution.

Molex PowerCat 6A U/FTP Cable is specifically designed to support high speed data network applications such as 10-Gigabit Ethernet (10GBASE-T). The cable is constructed of 4 screened pairs and a drain wire. This cable minimises alien crosstalk, provides excellent signal isolation and provides superior electromagnetic interference (EMI) protection.

Molex recommends that the full range of PowerCat 6A Shielded products be used in a system to maximise cabling performance. This system is compliant with ISO/IEC 11801 amendment 1 and TIA/EIA 56B.2-10 for the support of 10GBASE-T.

- Outstanding signal isolation
- The cable is compliant with ISO/IEC 11801 amendment 2 and TIA/EIA 568-C.2
- Enhanced performance 4 pair U/FTP LSOH cable
- Resistant to alien crosstalk
- Colour coded for ease of termination

Commerical Standards

ISO/IEC 11801 amendment 2:2010
TIA/EIA-568-C.2 Category 6A
IEC 61156-5
ETL independant testing
EN50288-6-1 standard

Fire Propagation Tests

IEC 60332-1

Applications

Category 6A U/FTP Cable is intended for high speed data applications up to 500MHz including:
IEEE 802.3 10GBASE-T 10Gb/s
IEEE 802.3 1000BASE-T 1Gb/s
TIA/EIA-854 1000BASE-TX 1Gb/s
ATM 155Mb/s 155Mb/s

Technical Information

Mechanical Characteristics

Conductor: Bare copper wire
1 x 0.55 +0/- 0.02 mm (AWG23)

Insulation: Foam-PE, 1.37 +/- 0.03 mm

Twisting: 4 twisted pairs, 2 single conductors paired

Twisted pair color code:
1: white / blue 2: white / orange
3: white / green 4: white / brown

Individual Shielding: A layer of aluminum foil laminated tape will be wrapped over the twinning, the aluminum side face- out.

Binder (optional): Polyester

Shielding: Tinned copper wire as a drain wire 1 x 0.409 +/- 0.02 mm (AWG26)

Outer jacket: LSOH

Outer diameter: 7.0 +/- 0.2 mm

Bending radius: ≥4xOD without load
≥8xOD with load

Operating Temperature
Operation: -20 to 60 °C
Installation: 0 to 50 °C



Electrical/Optical Characteristics

DC resistance: max. 8.2 Ω / 100 m at 20 °C

Resistance unbalance: max. 2% at 20 °C

Insulation resistance (500V): min. 150 MΩ/Km at 20 °C

Mutual capacitance: nom. 4.6 nf / 100 m at 1 kHz

Capacitance unbalance (pair to ground): max. 330 pf / 100 m at 1 kHz

Nominal velocity of propagation: nom. 78 %

Test voltage (DC, 1 min): 750 V / 1 min

Transmission Properties and Electrical Specifications

FREQ MHz	Impedance Ω	Insertion Loss (dB) Max	NEXT (dB) Min	PSNEXT (dB) Min	ACRF (dB) Min	PSACRF (dB) Min	Return Loss (dB) Min	Propagation Delay (ns) Max	Delay Skew (ns) Max
1	100 ± 15	--	74.3	72.3	67.8	64.8	20.0	570	45
4		3.8	65.3	63.3	55.8	52.8	23.0	552	
8		5.3	60.8	58.8	49.7	46.7	24.5	547	
10		5.9	59.3	57.3	47.8	44.8	25.0	545	
16		7.5	56.2	54.2	43.7	40.7	25.0	543	
20		8.4	54.8	52.8	41.8	38.8	25.0	542	
25		9.4	53.3	51.3	39.8	36.8	24.3	541	
31.25		10.5	51.9	49.9	37.9	34.9	23.6	540	
62.5		15.0	47.4	45.4	31.9	28.9	21.5	539	
100		19.1	44.3	42.3	27.8	24.8	20.1	538	
200	100 ± 22	27.6	39.8	37.8	21.8	18.8	18.0	537	
250		31.1	38.3	36.3	19.8	16.8	17.3	536	
300		34.3	37.1	35.1	18.3	15.3	16.8	536	
400		40.1	35.3	33.3	15.8	12.8	15.9	536	
500		45.3	33.8	31.8	13.8	10.8	15.2	536	

ORDERING INFORMATION

Order No.	SAP No.	Description
CAA-0322L-VL	Consult Molex	PowerCat 6A U/FTP LSOH Cable 500M Violet

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