

# PowerCat 6A U/FTP Cable ➤

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 minimizes 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 maximize cabling performance. This system is compliant with ISO/IEC 11801 amendment 1 and TIA-568.2-D for the support of 10GBASE-T.



PowerCat 6A U/FTP Cable

## FEATURES AND ADVANTAGES

Outstanding signal isolation

The cable is compliant with ISO/IEC 11801 amendment 2 and TIA-568.2-D

Enhanced performance 4 pair U/FTP LS0H cable

Resistant to alien crosstalk

Color coded for ease of termination

## SPECIFICATIONS

### Commercial Standards

ISO/IEC 11801 amendment 2:2010

TIA-568.2-D Category 6A

IEC 61156-5

AS/CA 5008:2020

EN 50173

RoHS compliant

REACH compliant

### Fire Propagation Tests

IEC 60332-1

ASTM 2843; IEC 60754-2; IEC 60332-3-22

### 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

IEEE 802.3bt (POE++)

TIA/EIA-854 1000BASE-TX 1Gb/s

ATM 155Mb/s 155Mb/s

ETL listed

### Mechanical

Conductor Size: 23AWG

Primary Insulation: Polyolefin

Screen material: Laminated Aluminum

Sheath Type: LS0H

Nominal OD: 6.8mm +/- 0.4mm

NVP: 75-77%

Screen:

Each pair enclosed in laminated aluminum foil

Drain Wire: Tin-coated copper

Pulling Force:

Short Term: 400N

Long Term: 100N

Min. inside bend radius under load:

4 x OD

Min. inside bend radius under no-load:

4 x OD

Operating Temperature

Installation: 0°C to +50°C

Operation: -20°C to +70°C

### Electrical

Capacitance: 40 pF/m nom. @1 KHz.

DC Resistance: 72 Ω/Km max.

Insulation Resistance:

1000VDC/600VAC for 1 minute.

Propagation Delay:

514 + 36f1/2 nS/100m max @1-500 MHz

Propagation Delay Skew:

45 nS/100 max @ 1-500 MHz

Mean Impedance: 100Ω ± 6 @ 1-500 MHz

Voltage Rating: 72V dc maximum

Resistance Unbalance: 2% max.

Coupling Attenuation:

45dB min @30-100 MHz

40-20 Log (f/100) @ 100-500 MHz

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## SPECIFICATIONS (CONTINUED)

### Physical

Weight per 500m reel: 30kg

### PoE

Our PowerCat 6A system is suitable for the most demanding PoE applications:

- IEEE 802.3bt from Type 1 to Type 4, and CISCO UPoE+
- IEEE 802.3bt Type 1 up to 15.4W (350mA per pair / 2 pairs energized)
- IEEE 802.3bt Type 2 up to 30W (600mA per pair / 2 pairs energized)
- IEEE 802.3bt Type 3 up to 60W and CISCO

UPoE (600mA per pair / 4 pairs energized)  
 - HD Base-T PoH up to 100W (1000mA per pair / 4 pairs energized)  
 - RP3 compliant as defined by EN 50174-2:2018, ISO/IEC 14763-2:2019 and AS/NZS 14763.2:2020

#### Notes:

For new installations of PoE Type 3 / Class 5 and above that wish to be eligible for the Molex 25 year Application Assurance Warranty, we require Category 6A cable to be used throughout. To confirm your PoE / RP3 cabling design is eligible for the Molex 25 year Application Assurance

Warranty, your design must be verified and validated with the Molex PoE Calculator. Read more <https://www.molexces.com/poe-calculator>

Molex recommends that the PoE feature on an individual switch port are power disabled prior to unplugging the associated Powered Device.

Molex recommends that the full range of PowerCat 6A products be used in a system to maximize cabling and PoE performance. Details on Molex requirements for Warranty can be found at <https://www.molexces.com/about-us/our-warranty/>

## TRANSMISSION PROPERTIES AND ELECTRICAL SPECIFICATIONS

Frequency MHz	Insertion Loss dB/100m	NEXT dB	PSNEXT dB	ELFEXT dB	PSELFEXT dB	RL dB	DELAY nS/100m	TCL dB	EL-TCL dB	PS ANEXT dB	PS AACRF dB
1	2.0	74.3	72.3	67.8	64.8	20.0	570	40.0	35.0	67.0	67.0
10	5.9	59.3	57.3	47.8	44.8	25.0	545	40.0	15.0	67.0	58.2
20	8.3	54.8	52.8	41.8	38.8	25.0	542	37.0	9.0	67.0	52.2
25	9.3	53.3	51.3	39.8	36.8	24.3	541	36.0	7.0	67.0	48.7
30	10.2	52.1	50.1	38.3	35.3	23.8	541	35.2	5.5	67.0	48.7
62.5	14.9	47.4	45.4	31.9	28.9	21.5	539	32.0	NS	65.6	42.3
100	19.0	44.3	42.3	27.8	24.8	20.1	538	30.0	NS	62.5	38.2
200	27.5	39.8	37.8	21.8	18.8	18.0	537	27.0	NS	58.0	32.2
250	31.0	38.3	36.3	19.8	16.8	17.3	536	26.0	NS	56.5	30.2
300	34.2	37.1	35.1	18.3	15.3	16.8	536	25.2	NS	55.3	28.7
400	40.0	35.3	33.3	15.8	12.8	15.9	536	24.0	NS	53.5	26.2
500	45.3	33.8	31.8	13.8	10.8	15.2	536	23.0	NS	52.0	24.2

[www.molexces.com/products/copper/cat6a/](https://www.molexces.com/products/copper/cat6a/)

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## ORDERING INFORMATION

Order No.	SAP No.	Description
CAA-0322L-VL	183020011	CBL C6A U/FTP 4PR 23 AWG LSZH 500M VIOLET
CAA-0322L-OK	183020032	CBL C6A U/FTP 4PR 23 AWG LSZH 500M YELLOW
CAA-0322L-BK	181740134	CBL C6A U/FTP 4PR 23 AWG LSZH 500M BLACK
CAA-0322L-BL	183020024	CBL C6A U/FTP 4PR 23 AWG LSZH 500M BLUE
CAA-0322L-GR	183020025	CBL C6A U/FTP 4PR 23 AWG LSZH 500M GREEN
CAA-0322L-OW	183020051	CBL C6A U/FTP 4PR 23 AWG LSZH 500M WHITE
CAA-0322L-GY	183020046	CBL C6A U/FTP 4PR 23 AWG LSZH 500M GRAY
CAA-0322L-LG	183020050	CBL C6A U/FTP 4PR 23 AWG LSZH 500M LIME GREEN
CAA-0322L-OR	183020047	CBL C6A U/FTP 4PR 23 AWG LSZH 500M ORANGE
CAA-0322L-PK	183020060	CBL C6A U/FTP 4PR 23 AWG LSZH 500M PINK
CAA-0322L-RD	183020074	CBL C6A U/FTP 4PR 23 AWG LSZH 500M RED

Standard stocked colors: Violet, Yellow, Black, Blue and Green.

Other colors are subject to availability and MOQ, for more information, contact Customer Service.

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