



**Product:** [1683ENH](#)

Cat 6A Cable, U/UTP, LSZH, 4 Pair, AWG 23, Indoor CPR Eca

## Product Description

Cat. 6A (500MHz), 4-Pair, U/UTP Unshielded, Premise Horizontal Cable, 23 AWG solid bare copper conductors, Polyethylene insulation, LSZH jacket

## Technical Specifications

### Product Overview

Suitable Applications:	Horizontal and building backbone cable; Support current and future Cat. 6a and 6 applications such as; 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI and ATM
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### Physical Characteristics (Overall)

#### Conductor

AWG	Material	No. of Pairs
23	BC - Bare Copper	4

Conductor Count:	8
Total Number of Pairs:	4

#### Insulation

Material	Nominal Diameter
Polyethylene	1.18 mm

Bonded-Pair:	No
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#### Color Chart

Number	Color
Pair 1	White / Blue & Blue
Pair 2	White / Orange & Orange
Pair 3	White / Green & Green
Pair 4	White / Brown & Brown

#### Outer Shield Material

Type	Material
Foil	Special barrier tape

#### Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance
LSZH / FRNC	7.2 mm	0.3 mm

### Electrical Characteristics

#### Conductor DCR

Max. Conductor DCR	Max DCR Unbalanced Between Pairs [%]	Max. DCR Unbalanced Within Pair [%]
9.5 Ohm/km	4 %	2 %

#### Capacitance

Max. Capacitance Unbalanced Pair to Pair	Max. Mutual Capacitance
1,600 pF/m	56 pF/m

#### Delay

Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
45 ns/100m	67 %

#### High Freq

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. TCL [dB]	Min. ELTCTL [dB]
1 MHz	2.1 dB/100m	75.3 dB	72.3 dB	73.2 dB	70.2 dB	68.0 dB	65 dB	40 dB	
4 MHz	3.8 dB/100m	66.3 dB	63.3 dB	62.5 dB	59.5 dB	56.0 dB	53 dB	34 dB	35 dB
10 MHz	5.9 dB/100m	60.3 dB	57.3 dB	54.4 dB	51.4 dB	48.0 dB	45 dB	30 dB	23 dB
16 MHz	7.5 dB/100m	57.2 dB	54.2 dB	49.8 dB	46.8 dB	43.9 dB	40.9 dB	28 dB	15 dB
31.2 MHz	10.5 dB/100m	52.9 dB	49.9 dB	42.4 dB	39.4 dB	38.1 dB	35.1 dB	25.1 dB	10.9 dB
62.5 MHz	15.0 dB/100m	48.4 dB	45.4 dB	33.4 dB	30.4 dB	32.1 dB	29.1 dB	22 dB	5.1 dB
100 MHz	19.1 dB/100m	45.3 dB	42.3 dB	26.2 dB	23.2 dB	28.0 dB	25 dB	20 dB	
125 MHz	21.5 dB/100m	43.8 dB	40.8 dB	22.3 dB	19.3 dB	26.1 dB	23.1 dB	19 dB	
200 MHz	27.6 dB/100m	40.8 dB	37.8 dB	13.2 dB	10.2 dB	22.0 dB	19 dB	17 dB	
250 MHz	31.1 dB/100m	39.3 dB	36.3 dB	8.3 dB	5.3 dB	20.0 dB	17 dB	16 dB	
300 MHz	34.3 dB/100m	38.1 dB	35.1 dB	3.9 dB	0.9 dB	18.5 dB	15.5 dB		
500 MHz	35.3 dB/100m	34.8 dB	31.8 dB	-10.4 dB	-13.4 dB	14.0 dB	11 dB		

Segregation class according EN50174-2: b

#### Current

Max. Recommended Current [A]
1.5 A

#### Voltage

Voltage Rating [V]
72 V DC

#### Temperature Range

Installation Temp Range:	0°C To +50°C
Operating Temp Range:	-30°C To +60°C

#### Mechanical Characteristics

Bulk Cable Weight:	50 kg/km
Max Recommended Pulling Tension:	80 N

#### Standards

ISO/IEC Compliance:	ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011
CPR Euroclass:	Eca
CENELEC Compliance:	EN 50173-1 Ed. 3:2011
Data Category:	Category 6A
ANSI Compliance:	ANSI/TIA 568.2-D (2018)
IEEE Specification:	PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4

#### Applicable Environmental and Other Programs

Environmental Space:	Indoor - Euroclass Eca
EU RoHS Compliance Date (yyyy-mm-dd):	2015-08-25

#### Flammability, LSOH, Toxicity Testing

ISO/IEC Flammability:	IEC 60332-1-2
Burning Load:	745 kJ/m
Amount of Halogen acc. to IEC 60754-1 & EN50267-1:	Zero

#### Part Number

##### Variants

Item #	Color	Length
1683ENH.00500	Blue	500 m
1683ENH.001000	Blue	1,000 m
1683ENH.01500	Purple	500 m
1683ENH.01B100	Purple	100 m

Patent: <https://www.belden.com/resources/patents>

## History

Update and Revision: Revision Number: 0.113 Revision Date: 01-31-2020

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