



1685ENH

Part Number: 1685ENH

Category 6A Nonbonded-Pair ScTP Cable

Product Description

CAT6A (500MHz), 4-Pair, F/FTP shielded, Premise Horizontal Cable, 23 AWG Solid Bare Copper conductors, Foam Polyolefin insulation, each pair with Beldfoil® shield, AWG 26 solid tinned copper drainwire, overall Beldfoil® shield, LSZH jacket

Product Specifications

Technical Specifications

Application 1:	Horizontal and building backbone cable
Application 2:	Support current and future Category 6A and 6 applications, such as: 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM

Construction and Dimensions

Conductor:

Element	AWG	Stranding	Material	No. of Pairs
Individual pair	23	Solid	Bare copper	4
Min Elongation at Breakof Conductors:		10 %		

Insulation:

Element	Type	Material	Nominal Diameter
Individual pair	Dielectric	Polyethylene	1.32 mm
Min Elongation at Breakof Insulation:		100 %	

Color Chart 1:

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

Innershield:

Element	Type	Material	Coverage
Individual shielded pair	Tape	Aluminium / Polyester	100 %
Aluminum facing outside			

Outershield 1:

Type	Material	Coverage	Drainwire Material	Drainwire AWG	Drainwire Position
Tape	Aluminum / Polyester	100 %	Solid tinned copper	26	Between inner and outer foil
Aluminum facing inside in					

Outerjacket 1:

Material	Nominal Diameter	Diameter +/- Tolerance	Ripcord
FRNC / LSNH	7.1 mm	0.3 mm	Yes
Min Elongation at Break of Jacket:		100 MPa	
Min Tensile Strength of Jacket:		9 lbs	

Electrical Characteristics**Conductor DCR:**

Max. Conductor DCR	Max DCR Unbalanced Between Pairs	Max. DCR Unbalanced Within Pair
95 Ohm/100m	4 %	2 Ohm

Capacitance:

Max. Capacitance Unbalanced	Max. Mutual Capacitance
1,600 pF/m	56 pF/m
Min Insulation Resistance:	5000 mOhm/1000ft

Impedance:

Nominal Characteristic Impedance

100 mOhm/ft

Delay:

Max. Delay Skew

25 ns/100m

Nominal Velocity of Propagation (VP)

77 ns/100m

High Freq:

Element	Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT	Min. PSNEXT	Min. ACR	Min. PSACR	Min. ACRF (ELFEXT)	Min. PSACRF (PSSELFEXT)	Min. RL (Return Loss)	Min. PSANEXT	Min. PSAACRF	Min. RFTCL	Min. ELTCTL
	1 MHz	2.1 db/100m	75.3 dB	72.3 dB	73.2 dB	70.2 dB	68 dB	65 dB	20 dB	67 dB	67 dB	40 dB	35 dB
	4 MHz	3.8 db/100m	66.3 dB	63.3 dB	62.5 dB	59.5 dB	56 dB	53 dB	23 dB	67 dB	66.2 dB	34 dB	23 dB
	10 MHz	5.9 db/100m	60.3 dB	57.3 dB	54.4 dB	51.4 dB	48 dB	45 dB	25 dB	67 dB	58.2 dB	30 dB	15 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	25 dB	67 dB	54.1 dB	28 dB	10.9 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	23.6 dB	67 dB	48.3 dB	25.1 dB	5.1 dB
	62.5 MHz	15 db/100m	48.4 dB	45.4 dB	33.4 dB	30.4 dB	32.1 dB	29.1 dB	21.5 dB	65.6 dB	42.3 dB	22 dB	
	100 MHz	19.1 db/100m	45.3 dB	42.3 dB	26.2 dB	23.2 dB	28 dB	25 dB	20.1 dB	62.5 dB	38.2 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	19.4 dB	61 dB	36.3 dB	19 dB	
	200 MHz	27.6 db/100m	40.8 dB	37.8 dB	13.2 dB	10.2 dB	22 dB	19 dB	18 dB	58 dB	32.2 dB	17 dB	
	250 MHz	31.1 db/100m	39.3 dB	36.3 dB	8.3 dB	5.3 dB	20 dB	17 dB	17.3 dB	56.5 dB	30.2 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	17.3 dB	55.3 dB	28.7 dB		
	500 MHz	45.3 db/100m	34.8 dB	31.8 dB	-10.4 dB	-13.4 dB	14 dB	11 dB	17.3 dB	52 dB	24.2 dB		
	625 MHz	51.2 db/100m	33.4 dB	30.4 dB	-17.8 dB	-20.8 dB	12.1 dB	9.1 dB	17.3 dB	50.6 dB	22.3 dB		

): Limits below 4MHz and at 625MHz are for information only.

Current:

Max. Recommended Current

1.5 A

Voltage:

Voltage Rating

72 dB

Coupling Attenuation:

Coupling Attenuation

Type II V

Transfer Impedance:

Frequency [MHz]	Description	Transfer Impedance
1 Mhz	Grade 2	Max.50 mOhm/m
10 Mhz		Max. 100 mOhm/m
30 Mhz		Max. 200 mOhm/m
100 Mhz		Max. 1000 mOhm/m

Use

Burning Load:	515 kJ/m
Max Recommended Pulling Tension:	79 lbs

Safety

ISO/IEC Flammability:	IEC 60332-1
Amt of Halogen Acid Gas; MaxConductivity:	10 μ S/mm
Amt of Halogen Acid Gas; Min pH:	4.3
Smoke Density; Min Transmittance:	60 %
Amt of Halogen IEC 60754-1 /EN50267-1:	Zero

Temperature Range

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

Mechanical Characteristics

Min Bend Radius During Installation:	57 mm
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Min Bend Radius During Operation:	29 mm
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Part Number

Standards

ISO/IEC Compliance:	ISO/IEC 11801 2nd edition (2002) and ISO/IEC 11801 Amendment 2 (2010)
ANSI Compliance:	ANSI/TIA/EIA 568-B.2-1 (2002)
CENELEC Compliance:	EN 50173-1 (2011)

History

Revision Date:	40847
Revision Number:	6

Product Variants

Part Number	Color	Put-Up Type	Length
1685ENH.001000	GRAY	Reel	1000 m
1685ENH.00500	GRAY	Reel	500 m
1685ENH.031000	PURPLE	Reel	1000 m
1685ENH.03500	PURPLE	Reel	500 m

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