



Part Number: 3613

CAT6+ Horizontal, 4pr, UTP, LS-PVC Jkt, CMP

Product Description

CAT6+ (400MHz), 4-Pair, U/UTP-unshielded, Plenum-CMP, Premise Horizontal cable, 23 AWG solid bare copper conductors, dual FRPO/FEP insulation, patented X-spline Center Member, ripcord, Flammarrest® PVC jacket.

Technical Specifications

Product Overview

Environmental Space:	Plenum
Suitable Applications:	Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments

Physical Characteristics (Overall)

Conductor

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

Conductor Count:	8
Total Number of Pairs:	4
Conductor Size:	23 AWG

Insulation

Material
FRPO/FEP - Flame Retardant Polyolefin/Fluorinated Ethylene Propylene

Bonded-Pair:	N/A
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Color Chart

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

Outer Jacket Material

Material	Material Trade Name	Nominal Diameter	Nominal Wall Thickness	Ripcord	Separator Material
LS PVC - Low Smoke Polyvinyl Chloride	Flammarrest®	0.238 in	0.017 in	Yes	Patented X-Spline Center Member

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max. DCR Unbalance
77 Ohm/km	3 %

Capacitance

Max. Capacitance Unbalance	Nom. Mutual Capacitance
330 pF/100m	15.5 pF/ft

Delay

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]	Typical Delay Skew
100 MHz	537.6 ns/100m	35 ns/100m	70 %	35 ns/100m

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. RL (Return Loss) [dB]	Max./Min. Input Impedance (unFitted)	Min. TCL [dB]	Min. ELTCTL [dB]
0.772 MHz	1.8 dB/100m	81.0 dB	81.0 dB	79.2 dB	79.2 dB	75.0 dB	73.0 dB			40.0 dB	37.2 dB
1 MHz	2.0 dB/100m	79.3 dB	79.3 dB	77.3 dB	77.3 dB	72.8 dB	70.8 dB	20.0 dB	100 ± 15 Ohm	40.0 dB	35.0 dB
4 MHz	3.7 dB/100m	70.3 dB	70.3 dB	66.6 dB	66.6 dB	60.8 dB	58.8 dB	23.0 dB	100 ± 15 Ohm	40.0 dB	23.0 dB
8 MHz	5.2 dB/100m	65.8 dB	65.8 dB	60.6 dB	60.6 dB	54.7 dB	52.7 dB	24.5 dB	100 ± 15 Ohm	40.0 dB	16.9 dB
10 MHz	5.8 dB/100m	64.3 dB	64.3 dB	58.5 dB	58.5 dB	52.8 dB	50.8 dB	25.0 dB	100 ± 15 Ohm	40.0 dB	15.0 dB
16 MHz	7.4 dB/100m	61.2 dB	61.2 dB	53.9 dB	53.9 dB	48.7 dB	46.7 dB	25.0 dB	100 ± 15 Ohm	38.0 dB	10.9 dB
20 MHz	8.3 dB/100m	59.8 dB	59.8 dB	51.5 dB	51.5 dB	46.8 dB	44.8 dB	25.0 dB	100 ± 15 Ohm	37.0 dB	9.0 dB
25 MHz	9.3 dB/100m	58.3 dB	58.3 dB	49.1 dB	49.1 dB	44.8 dB	42.8 dB	24.3 dB	100 ± 15 Ohm	36.0 dB	7.0 dB
31.25 MHz	10.4 dB/100m	56.9 dB	56.9 dB	46.5 dB	46.5 dB	42.9 dB	40.9 dB	23.6 dB	100 ± 15 Ohm	35.1 dB	
62.5 MHz	15.0 dB/100m	52.4 dB	52.4 dB	37.4 dB	37.4 dB	36.9 dB	34.9 dB	21.5 dB	100 ± 15 Ohm	32.0 dB	
100 MHz	19.3 dB/100m	49.3 dB	49.3 dB	30.0 dB	30.0 dB	32.8 dB	30.8 dB	20.8 dB	100 ± 15 Ohm	30.0 dB	
155 MHz	24.6 dB/100m	46.4 dB	46.4 dB	21.8 dB	21.8 dB	28.9 dB	26.9 dB	19.5 dB	100 ± 22 Ohm	28.1 dB	
200 MHz	28.3 dB/100m	44.8 dB	44.8 dB	16.5 dB	16.5 dB	26.8 dB	24.8 dB	18.7 dB	100 ± 22 Ohm	27.0 dB	
250 MHz	32.1 dB/100m	43.3 dB	43.3 dB	11.2 dB	11.2 dB	24.8 dB	22.8 dB	18.0 dB	100 ± 32 Ohm	26.0 dB	
300 MHz	35.6 dB/100m	42.1 dB	42.1 dB	6.5 dB	6.5 dB	23.3 dB	21.3 dB	17.5 dB	100 ± 32 Ohm		
350 MHz	38.9 dB/100m	41.1 dB	41.1 dB	2.3 dB	2.3 dB	21.9 dB	19.9 dB	17.0 dB	100 ± 32 Ohm		
400 MHz	42.0 dB/100m	38.3 dB	38.3 dB	-3.7 dB	-3.7 dB	20.8 dB	18.8 dB	16.6 dB	100 ± 32 Ohm		
450 MHz	45.0 dB/100m	37.5 dB	37.5 dB			19.7 dB	17.7 dB	16.2 dB	100 ± 32 Ohm		
500 MHz	47.9 dB/100m	36.8 dB	36.8 dB			18.8 dB	16.8 dB	15.9 dB	100 ± 32 Ohm		
550 MHz	50.6 dB/100m	36.2 dB	36.2 dB			18.0 dB	16.0 dB	15.6 dB	100 ± 32 Ohm		
600 MHz	53.3 dB/100m	35.6 dB	35.6 dB			17.2 dB	15.2 dB	15.4 dB	100 ± 32 Ohm		
650 MHz	55.9 dB/100m	35.1 dB	35.1 dB			16.5 dB	14.5 dB	15.1 dB	100 ± 32 Ohm		

Segregation class according EN50174-2: a

Voltage

UL Voltage Rating

300 V RMS

Temperature Range

Installation Temp Range:	0°C To +50°C
UL Temp Rating:	90°C
Storage Temp Range:	-20°C To +75°C
Operating Temp Range:	-20°C To +75°C

Mechanical Characteristics

Bulk Cable Weight:	28 lbs/1000ft
Max Recommended Pulling Tension:	25 lbs
Min Bend Radius During Installation:	2.5 in
Min Bend Radius/Minor Axis:	1.0 in

Standards

NEC Articles:	800
NEC/(UL) Specification:	CMP
CEC/C(UL) Specification:	CMP
ISO/IEC Compliance:	11801 ed 2.2 (2011) Class E
CPR Euroclass:	Eca
Data Category:	Category 6
ANSI Compliance:	S-116-732-2013 Category 6, ANSI/NEMA WC-66 Category 6
Telecommunications Standards:	ANSI/TIA-568-C.2 Category 6
IEEE Specification:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
Other Standards:	C(UL)US CMP 90C OR (UL) CMP-LP (0.6A) OR CL3P-LP (0.6A)
Third Party Performance Verification:	Category 6

Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2003/96/EC (BFR):	Yes
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU:	Yes
EU Directive Compliance:	Yes
EU CE Mark:	Yes
EU REACH SVHC Compliance (yyyy-mm-dd):	2017-07-10
EU RoHS Compliance Date (yyyy-mm-dd):	2009-04-03
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes

Suitability

Suitability - Aerial:	No
Suitability - Burial:	No
Suitability - Hazardous Locations:	No
Suitability - Indoor:	Yes
Suitability - Non-Halogenated:	No
Suitability - Oil Resistance:	No
Suitability - Outdoor:	No
Suitability - Sunlight Resistance:	No

Flammability, LSOH, Toxicity Testing

C(UL) Flammability:	FT6
UL Flammability:	NFPA 262 Plenum (UL 910)
CSA Flammability:	FT6
ISO/IEC Flammability:	IEC 60332-1-2
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	Yes
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Part Number

Non-Plenum Number:	3612
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Variants

Item #	Color
3613 0101000	Black
3613 0102500	Black
3613 010A1000	Black
3613 010U1000	Black
3613 D151000	Blue
3613 D152500	Blue
3613 D15A1000	Blue
3613 D15U1000	Blue
3613 0081000	Gray
3613 008A1000	Gray
3613 008U1000	Gray
3613 0051000	Green
3613 0052500	Green
3613 005A1000	Green
3613 005U1000	Green
3613 0031000	Orange
3613 003A1000	Orange
3613 003U1000	Orange

3613 012A1000	Pink
3613 007A1000	Purple
3613 007U1000	Purple
3613 002A1000	Red
3613 0091000	White
3613 0092500	White
3613 009A1000	White
3613 009U1000	White
3613 0041000	Yellow
3613 0042500	Yellow
3613 004A1000	Yellow
3613 004U1000	Yellow

Patent:	https://www.belden.com/resources/patents
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Product Notes

Notes:	Values above 400 MHz are for Engineering Information Only. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.
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