



Part Number: 2413

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

Product Description

CAT6+ (350MHz), 4-Pair, U/UTP-unshielded, Plenum-CMP, Premise Horizontal cable, 23 AWG solid bare copper conductors, dual FRPO/FEP insulation, tape separator, ripcord, Flamarrest® jacket

Technical Specifications

Product Overview

Environmental Space:	Plenum
Suitable Applications:	Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155 ATM, 622 ATM, 250MHz Category 6

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

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	Ripcord	Separator Material
LS PVC - Low Smoke Polyvinyl Chloride	Flamarrest®	0.224 in	Yes	Patented Dielectric Tape

Electrical Characteristics

Conductor DCR

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

Capacitance

Max. Capacitance Unbalance	Nom. Mutual Capacitance
330 pF/100m	17 pF/ft

Delay

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
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100 MHz	537.6 ns/100m	35 ns/100m	72 %
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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)	Max./Min. Fitted Impedance
1 MHz	2.0 dB/100m	75.3 dB	75.3 dB	73.3 dB	73.3 dB	70.8 dB	67.8 dB	20.0 dB	100 ± 15 Ohm	102 ± 15 Ohm
4 MHz	3.7 dB/100m	66.3 dB	66.3 dB	62.6 dB	62.6 dB	58.8 dB	55.8 dB	23.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
8 MHz	5.2 dB/100m	61.8 dB	61.8 dB	56.6 dB	56.6 dB	52.7 dB	49.7 dB	24.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
10 MHz	5.8 dB/100m	60.3 dB	60.3 dB	54.5 dB	54.5 dB	50.8 dB	47.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
16 MHz	7.4 dB/100m	57.2 dB	57.2 dB	49.9 dB	49.9 dB	46.7 dB	43.7 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
20 MHz	8.3 dB/100m	55.8 dB	55.8 dB	47.5 dB	47.5 dB	44.8 dB	41.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
25 MHz	9.3 dB/100m	54.3 dB	54.3 dB	45.1 dB	45.1 dB	42.8 dB	39.8 dB	24.3 dB	100 ± 15 Ohm	100 ± 15 Ohm
31.25 MHz	10.4 dB/100m	52.9 dB	52.9 dB	42.5 dB	42.5 dB	40.9 dB	37.9 dB	23.6 dB	100 ± 15 Ohm	100 ± 15 Ohm
62.5 MHz	15.0 dB/100m	48.4 dB	48.4 dB	33.4 dB	33.4 dB	34.9 dB	31.9 dB	21.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
100 MHz	19.3 dB/100m	45.3 dB	45.3 dB	26.0 dB	26.0 dB	30.8 dB	27.8 dB	20.8 dB	100 ± 15 Ohm	100 ± 15 Ohm
155 MHz	24.6 dB/100m	42.4 dB	42.4 dB	17.9 dB	17.9 dB	27.0 dB	24.0 dB	19.5 dB	100 ± 22 Ohm	100 ± 15 Ohm
200 MHz	28.3 dB/100m	40.8 dB	40.8 dB	12.5 dB	12.5 dB	24.8 dB	21.8 dB	18.7 dB	100 ± 22 Ohm	100 ± 15 Ohm
250 MHz	32.1 dB/100m	39.3 dB	39.3 dB	7.2 dB	7.2 dB	22.8 dB	19.8 dB	18.0 dB	100 ± 32 Ohm	100 ± 15 Ohm
300 MHz	35.6 dB/100m	38.1 dB	36.1 dB	2.5 dB	0.5 dB	21.3 dB	18.3 dB	17.5 dB	100 ± 32 Ohm	100 ± 15 Ohm
350 MHz	38.9 dB/100m	37.1 dB	35.1 dB	-1.8 dB	-3.8 dB	19.9 dB	16.9 dB	17.0 dB	100 ± 32 Ohm	100 ± 15 Ohm
400 MHz	42.0 dB/100m	36.3 dB	34.3 dB	-5.7 dB	-7.7 dB	18.8 dB	15.8 dB	16.6 dB	100 ± 32 Ohm	100 ± 15 Ohm
450 MHz	45.0 dB/100m	35.5 dB	33.5 dB	-9.5 dB	-11.5 dB	17.7 dB	14.7 dB	16.2 dB	100 ± 32 Ohm	100 ± 15 Ohm
500 MHz	47.9 dB/100m	34.8 dB	32.8 dB	-13.1 dB	-15.1 dB	16.8 dB	13.8 dB	15.9 dB	100 ± 32 Ohm	100 ± 15 Ohm
550 MHz	50.6 dB/100m	34.2 dB	32.2 dB	-16.4 dB	-18.4 dB	16.0 dB	13.0 dB	15.6 dB	100 ± 32 Ohm	100 ± 15 Ohm

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:	26 lbs/1000ft
Max Recommended Pulling Tension:	25 lbs
Min Bend Radius/Minor Axis:	1.0 in
Min Bend Radius/Installation:	2.25 in

Standards

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)JUS CMP 90C OR (UL) CMP-LP (0.5A) OR CL3P-LP (0.5A)
Third Party Performance Verification:	Category 6

Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	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):	2005-10-13
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
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	Yes
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Part Number

Non-Plenum Number:	2412
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Variants

Item #	Color
2413 0101000	Black
2413 0102500	Black
2413 010A1000	Black
2413 010U1000	Black
2413 D151000	Blue
2413 D152500	Blue
2413 D15A1000	Blue
2413 D15U1000	Blue
2413 0081000	Gray
2413 008A1000	Gray
2413 008U1000	Gray
2413 0051000	Green
2413 0052500	Green
2413 005A1000	Green
2413 005U1000	Green
2413 0031000	Orange
2413 003A1000	Orange
2413 003U1000	Orange
2413 0035000	Orange
2413 0035000	Orange
2413 012A1000	Pink
2413 007A1000	Purple
2413 002A1000	Red
2413 0091000	White
2413 0092500	White
2413 009A1000	White
2413 009U1000	White
2413 0041000	Yellow

2413 0042500	Yellow
2413 004A1000	Yellow
2413 004U1000	Yellow

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

Product Notes

Notes: Values above 350 MHz are for Engineering Information Only. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.

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