



Part Number: 1213F

CAT5e+ Horizontal, 4pr, F/UTP, LS-PVC Jkt, CMP

Product Description

CAT5e+ (350MHz), 4-Pair, F/UTP-foil shielded, Plenum-CMP, Premise Horizontal cable, 24 AWG solid bare copper conductors, FEP insulation, overall Beldfoil® shield, Flamarrest® jacket, RJ-45 compatible

Technical Specifications

Product Overview

Environmental Space:	Plenum
Suitable Applications:	Premise Horizontal Cable, Gigabit Ethernet, HDBaseT, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU, Digital Video, RS-422, Noisy Environments, 100 MHz Category 5e

Physical Characteristics (Overall)

Conductor

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

Conductor Count:	8
Total Number of Pairs:	4
Conductor Size:	24 AWG

Insulation

Material	
FEP - 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 Shield Material

Type	Material	Material Trade Name	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Construction n x D
Tape	Aluminum/Polyester	Beldfoil®	100 %	TC - Tinned Copper	24	7x32 mm

Outer Jacket Material

Material	Material Trade Name	Nominal Diameter	Ripcord
LS PVC - Low Smoke Polyvinyl Chloride	Flamarrest®	0.235 in	No

Electrical Characteristics

Conductor DCR

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

Capacitance

Max. Capacitance Unbalance	Nom.Mutual Capacitance
330 pF/100m	15 pF/ft

Delay

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
100 MHz	537.6 ns/100m	45 ns/100m	70 %

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	70.3 dB	69.3 dB	68.3 dB	67.3 dB	67.8 dB	65.8 dB	20.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
4 MHz	4.0 dB/100m	61.3 dB	60.3 dB	57.3 dB	56.3 dB	55.8 dB	53.8 dB	23.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
8 MHz	5.7 dB/100m	56.8 dB	55.8 dB	51.1 dB	50.1 dB	49.7 dB	47.7 dB	24.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
10 MHz	6.4 dB/100m	55.3 dB	54.3 dB	48.9 dB	47.9 dB	47.8 dB	45.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
16 MHz	8.1 dB/100m	52.2 dB	51.2 dB	44.1 dB	43.1 dB	43.7 dB	41.7 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
20 MHz	9.1 dB/100m	50.8 dB	49.8 dB	41.7 dB	40.7 dB	41.8 dB	39.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
25 MHz	10.2 dB/100m	49.3 dB	48.3 dB	39.1 dB	38.1 dB	39.8 dB	37.8 dB	24.3 dB	100 ± 15 Ohm	100 ± 15 Ohm
31.25 MHz	11.4 dB/100m	47.9 dB	46.9 dB	36.4 dB	35.4 dB	37.9 dB	35.9 dB	23.6 dB	100 ± 15 Ohm	100 ± 15 Ohm
62.5 MHz	16.4 dB/100m	43.4 dB	42.4 dB	27.0 dB	26.0 dB	31.9 dB	29.9 dB	21.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
100 MHz	21.0 dB/100m	40.3 dB	39.3 dB	19.3 dB	18.3 dB	27.8 dB	25.8 dB	20.1 dB	100 ± 15 Ohm	100 ± 15 Ohm
155 MHz	26.6 dB/100m	37.4 dB	36.4 dB	10.9 dB	9.9 dB	24.0 dB	22.0 dB	18.8 dB	100 ± 22 Ohm	100 ± 15 Ohm
200 MHz	30.5 dB/100m	35.8 dB	34.8 dB	5.3 dB	4.3 dB	21.8 dB	19.8 dB	18.0 dB	100 ± 22 Ohm	100 ± 15 Ohm
250 MHz	34.4 dB/100m	34.3 dB	33.3 dB	-0.1 dB	-1.1 dB	19.8 dB	17.8 dB	17.3 dB	100 ± 32 Ohm	100 ± 15 Ohm
300 MHz	38.0 dB/100m	33.1 dB	32.1 dB			18.3 dB	16.3 dB	14.4 dB	100 ± 32 Ohm	100 ± 15 Ohm
350 MHz	41.4 dB/100m	32.1 dB	31.1 dB			16.9 dB	14.9 dB	13.8 dB	100 ± 32 Ohm	100 ± 15 Ohm
400 MHz	44.6 dB/100m	31.3 dB	30.3 dB			15.8 dB	13.8 dB	13.3 dB	100 ± 32 Ohm	100 ± 15 Ohm
450 MHz	47.7 dB/100m	30.5 dB	29.5 dB			14.7 dB	12.7 dB	12.8 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:	75°C
Storage Temp Range:	-20°C To +75°C
Operating Temp Range:	-20°C To +75°C

Mechanical Characteristics

Bulk Cable Weight:	32 lbs/1000ft
Max Recommended Pulling Tension:	25 lbs
Min Bend Radius/Minor Axis:	2.25 in
Min Bend Radius/Installation:	2.75 in

Standards

NEC/(UL) Specification:	CMP
CEC/C(UL) Specification:	CMP
ISO/IEC Compliance:	11801 ed 2.2 (2011) Class D
CPR Euroclass:	Eca
Data Category:	Category 5e
ANSI Compliance:	S-90-661-2012 Category 5e, ANSI/NEMA WC-63.1 Category 5e
Telecommunications Standards:	ANSI/TIA-568-C.2 Category 5e
IEEE Specification:	IEEE 802.3bt Type 1, Type 2, Type 3
Third Party Performance Verification:	Category 5e

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):	2011-12-09
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, LS0H, Toxicity Testing

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:	1212F
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Variants

Item #	Color	Footnote
1213F 0101000	Black	C
1213F 010A1000	Black	
1213F D151000	Blue	C
1213F D15500	Blue	
1213F D15A1000	Blue	
1213F D15A500	Blue	
1213F 0081000	Gray	C
1213F 008A1000	Gray	
1213F 0051000	Green	C
1213F 005A1000	Green	
1213F 0031000	Orange	C
1213F 003A1000	Orange	
1213F 0021000	Red	C
1213F 002A1000	Red	
1213F 0091000	White	C
1213F 009A1000	White	
1213F 009A500	White	
1213F 0041000	Yellow	C
1213F 004A1000	Yellow	

Footnote:	C - CRATE REEL PUT-UP.
Patent:	https://www.belden.com/resources/patents

Product Notes

Notes:	Values above 350 MHz are for Engineering Information Only. Shield is Bonded to Jacket Inner Wall for Electrical Stability. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.
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