



Part Number: 7851A

CAT6"E" Horizontal Bonded-Pair, 4pr, UTP, PVC Jkt, CMR

Product Description

CAT6 Enhanced (600MHz), 4-Bonded-pairs, U/UTP-unshielded, Riser-CMR, Premise Horizontal cable, 23 AWG solid bare copper conductors, polyolefin insulation, patented E-spline, ripcord, PVC jacket

Technical Specifications

Product Overview

Environmental Space:	Riser
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	
PO - Polyolefin	
Bonded-Pair:	Yes

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	Nominal Diameter	Ripcord	Separator Material
PVC - Polyvinyl Chloride	0.280 in	Yes	Patented E-Spline Center Member

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max. DCR Unbalance
82 Ohm/km	3.0 %

Capacitance

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

Delay

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
100 MHz	537.6 ns/100m	38 ns/100m	67.0 %

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	Min. TCL [dB]	Min. ELTCTL [dB]
1 MHz	1.8 dB/100m	82.3 dB	80.3 dB	80.5 dB	78.5 dB	74.8 dB	72.8 dB	20.0 dB	100 ± 12 Ohm	100 ± 15 Ohm	40.0 dB	35.0 dB
4 MHz	3.5 dB/100m	73.3 dB	71.3 dB	69.7 dB	67.7 dB	62.8 dB	60.8 dB	23.0 dB	100 ± 12 Ohm	100 ± 10.4 Ohm	40.0 dB	23.0 dB
8 MHz	5.0 dB/100m	68.8 dB	66.8 dB	63.7 dB	61.7 dB	56.7 dB	54.7 dB	24.5 dB	100 ± 12 Ohm	100 ± 8 Ohm	40.0 dB	16.9 dB
10 MHz	5.7 dB/100m	67.3 dB	65.3 dB	61.6 dB	59.6 dB	54.8 dB	52.8 dB	25.0 dB	100 ± 12 Ohm	100 ± 7.3 Ohm	40.0 dB	15.0 dB
16 MHz	7.2 dB/100m	64.2 dB	62.2 dB	57.0 dB	55.0 dB	50.7 dB	48.7 dB	25.0 dB	100 ± 12 Ohm	100 ± 5.7 Ohm	38.0 dB	10.9 dB
20 MHz	8.1 dB/100m	62.8 dB	60.8 dB	54.7 dB	52.7 dB	48.8 dB	46.8 dB	25.0 dB	100 ± 12 Ohm	100 ± 5 Ohm	37.0 dB	9.0 dB
25 MHz	9.1 dB/100m	61.3 dB	59.3 dB	52.3 dB	50.3 dB	46.8 dB	44.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 5 Ohm	36.0 dB	7.0 dB
30 MHz	10.0 dB/100m	60.1 dB	58.1 dB	50.2 dB	48.2 dB	45.3 dB	43.3 dB	25.0 dB	100 ± 15 Ohm	100 ± 5 Ohm	35.2 dB	5.5 dB
31.25 MHz	10.2 dB/100m	59.9 dB	57.9 dB	49.7 dB	47.7 dB	44.9 dB	42.9 dB	25.0 dB	100 ± 15 Ohm	100 ± 5 Ohm	35.1 dB	
62.5 MHz	14.7 dB/100m	55.4 dB	53.4 dB	40.7 dB	38.7 dB	38.9 dB	36.9 dB	25.0 dB	100 ± 15 Ohm	100 ± 5 Ohm	32.0 dB	
100 MHz	18.9 dB/100m	52.3 dB	50.3 dB	33.4 dB	31.4 dB	34.8 dB	32.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 5 Ohm	30.0 dB	
155 MHz	23.9 dB/100m	49.4 dB	47.4 dB	25.5 dB	23.5 dB	31.0 dB	29.0 dB	22.8 dB	100 ± 15 Ohm	100 ± 5 Ohm	28.1 dB	
200 MHz	27.5 dB/100m	47.8 dB	45.8 dB	20.3 dB	18.3 dB	28.8 dB	26.8 dB	21.6 dB	100 ± 15 Ohm	100 ± 5 Ohm	27.0 dB	
240 MHz	30.5 dB/100m	46.6 dB	44.6 dB	16.1 dB	14.1 dB	27.2 dB	25.2 dB	20.6 dB	100 ± 20 Ohm	100 ± 5 Ohm	26.2 dB	
250 MHz	31.2 dB/100m	46.3 dB	44.3 dB	15.2 dB	13.2 dB	26.8 dB	24.8 dB	20.5 dB	100 ± 20 Ohm	100 ± 5 Ohm	26.0 dB	
300 MHz	34.5 dB/100m	43.1 dB	43.1 dB	8.6 dB	8.6 dB	25.3 dB	23.3 dB	20.1 dB	100 ± 20 Ohm	100 ± 5 Ohm		
310 MHz	35.2 dB/100m	42.9 dB	42.9 dB	7.8 dB	7.8 dB	25.0 dB	23.0 dB	20.0 dB	100 ± 20 Ohm	100 ± 5 Ohm		
350 MHz	37.7 dB/100m	42.1 dB	42.1 dB	4.5 dB	4.5 dB	23.9 dB	21.9 dB	19.8 dB	100 ± 22 Ohm	100 ± 5 Ohm		
400 MHz	40.6 dB/100m	41.3 dB	41.3 dB	0.6 dB	0.6 dB	22.8 dB	20.8 dB	19.5 dB	100 ± 22 Ohm	100 ± 5 Ohm		
436 MHz	42.7 dB/100m	40.7 dB	40.7 dB			22.0 dB	20.0 dB	19.1 dB	100 ± 22 Ohm	100 ± 5 Ohm		
450 MHz	43.5 dB/100m	40.5 dB	40.5 dB			21.7 dB	19.7 dB	18.9 dB	100 ± 22 Ohm	100 ± 5 Ohm		
460 MHz	44.0 dB/100m	40.4 dB	40.4 dB			21.5 dB	19.5 dB	18.8 dB	100 ± 22 Ohm	100 ± 5 Ohm		
500 MHz	46.2 dB/100ft	39.8 dB	39.8 dB			20.8 dB	18.8 dB	18.4 dB	100 ± 22 Ohm	100 ± 5 Ohm		
550 MHz	48.8 dB/100ft	39.2 dB	39.2 dB			20.0 dB	18.0 dB	18.0 dB	100 ± 22 Ohm	100 ± 5 Ohm		
600 MHz	51.4 dB/100ft	38.6 dB	38.6 dB			19.2 dB	17.2 dB	17.6 dB	100 ± 22 Ohm	100 ± 5 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:	33 lbs/1000ft
Max Recommended Pulling Tension:	40 lbs
Min Bend Radius During Installation:	2.25 in
Min Bend Radius/Minor Axis:	0.5 in

Standards

NEC Articles:	800
NEC/(UL) Specification:	CMR
CEC/C(UL) Specification:	CMR
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 CMR 90C OR (UL) CMR-LP (0.5A) OR CL3R-LP (0.5A)

Third Party Performance Verification:	Category 6
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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):	2004-01-01
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:	FT4
UL Flammability:	UL 1666 Riser
ISO/IEC Flammability:	IEC 60332-1-2
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	7852A

Part Number

Variants

Item #	Color	UPC	Length	Footnote
7851A 0101000	Black	612825190325	1,000 ft	
7851A 0101000	Black	612825190325	1,000 ft	
7851A 010A1000	Black	612825190318	1,000 ft	
7851A 010A1000	Black	612825190318	1,000 ft	
7851A 0061000	Blue	612825190288	1,000 ft	C
7851A 0061000	Blue	612825190288	1,000 ft	C
7851A 006A1000	Blue	612825190271	1,000 ft	
7851A 006A1000	Blue	612825190271	1,000 ft	
7851A F6H1000	Gray	612825190189	1,000 ft	C
7851A F6H1000	Gray	612825190189	1,000 ft	C
7851A F6HA1000	Gray	612825190172	1,000 ft	
7851A F6HA1000	Gray	612825190172	1,000 ft	
7851A 0051000	Green	612825190264	1,000 ft	C
7851A 0051000	Green	612825190264	1,000 ft	C
7851A 005A1000	Green	612825190257	1,000 ft	
7851A 005A1000	Green	612825190257	1,000 ft	
7851A 0031000	Orange	612825190226	1,000 ft	C

7851A 0031000	Orange	612825190226	1,000 ft	C
7851A 003A1000	Orange	612825190219	1,000 ft	
7851A 003A1000	Orange	612825190219	1,000 ft	
7851A 0021000	Red	612825190202	1,000 ft	
7851A 0021000	Red	612825190202	1,000 ft	
7851A 002A1000	Red	612825190196	1,000 ft	
7851A 002A1000	Red	612825190196	1,000 ft	
7851A 0091000	White	612825190301	1,000 ft	C
7851A 0091000	White	612825190301	1,000 ft	C
7851A 009A1000	White	612825190295	1,000 ft	
7851A 009A1000	White	612825190295	1,000 ft	
7851A 0041000	Yellow	612825190240	1,000 ft	C
7851A 0041000	Yellow	612825190240	1,000 ft	C
7851A 004A1000	Yellow	612825190233	1,000 ft	
7851A 004A1000	Yellow	612825190233	1,000 ft	

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

Product Notes

Notes:	Values above 600 MHz are for Engineering Information Only. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.
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