Detailed Specifications & Technical Data

ENGLISH MEASUREMENT VERSION

7851A Multi-Conductor - Enhanced Category 6 Bonded-Pair Cable

For more Information please call

1-800-Belden1

Description:

23 AWG Bonded-Pairs, Solid Bare Copper Conductors, Non-Plenum, Polyolefin Insulation, Patented e-Spline Center Member, Rip Cord, PVC Jacket

Usage (Overall)

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:

# Pairs	AWG	Stranding	Conductor Material
4	23	Solid	BC - Bare Copper

Insulation

Insulation Material:

Insulation Material
PO - Polyolefin

Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Outer Jacket Diameter:

Nom. Dia. (in.)
0.227
0.315

Outer Jacket Ripcord: Yes

Overall Cable

Overall Cabling Separator Material: E-Spline Center Member

Overall Nominal Diameter: 0.227 x 0.315 in.

Pair

Pair Color Code Chart:

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

Mechanical Characteristics (Overall)

Storage Temperature Range: -20°C To +75°C

Installation Temperature Range:	-20°C To +75°C
Operating Temperature Range:	0°C To +75°C
Bulk Cable Weight:	35 lbs/1000 ft.
Max. Recommended Pulling Tension:	45 lbs.
Min. Bend Radius (Install)/Minor Axis:	2 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR
NEC Articles:	800
CEC/C(UL) Specification:	CMR
Other Standards:	ISO/IEC 11801 ed 2.1 (2008) Class E
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	01/01/2004
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Telecommunications Standards:	Category 6 - TIA 568.C.2
Other Specification:	UL Verified to Category 6

Applicable Patents:

Country	Patent
US	5606151
US	5734126
US	6074503
US	6855889
US	7663061
US	7838773
US	7977575

Flame Test

UL Flame Test:	UL1666 Vertical Riser
C(UL) Flame Test:	FT4
CSA Flame Test:	FT4
IEEE Flame Test:	1202

Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	No
Suitability - Burial:	No
Sunlight Resistance:	No

Plenum/Non-Plenum

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

Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

Capacitance (pF/ft)
15.5

Maximum Capacitance Unbalance (pF/100 m): 90

Nominal Velocity of Propagation:

VP (%)
67

Maximum Delay:

Delay (ns/100 m)
538 @ 100MHz

Max. Delay Skew:

Delay Skew (ns/100 m)
38

Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)
8.2

Max. Operating Voltage - UL:

Voltage
300 V RMS

Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)
3

Electrical Characteristics-Premise (Overall)

Premise Cable Electrical Table 1:

Freq. (MHz)	Max. Attenuation (dB/100 m)	Min. NEXT (dB)	Min. PSNEXT (dB)	Min. ACR (dB)	Min. PSACR (dB)	Min RL (dB)	Min. SRL (dB)
1	1.9	82.3	80.3	80.5	78.5	20.0	27.0
4	3.6	73.3	71.3	69.7	67.7	23.0	27.0
8	5.1	68.8	66.8	63.7	61.7	24.5	27.0
10	5.7	67.3	65.3	61.6	59.6	25.0	27.0
16	7.2	64.3	62.3	57.0	55.0	25.0	27.0
20	8.1	62.8	60.8	54.7	52.7	25.0	27.0
25	9.1	61.3	59.3	52.3	50.3	25.0	27.0
31.25	10.2	59.9	57.9	49.7	47.7	25.0	27.0
62.5	14.7	55.4	53.4	40.7	38.7	25.0	27.0
100	18.9	52.3	50.3	33.4	31.4	25.0	27.0
155	23.9	49.5	47.5	25.5	23.5	22.8	24.7
200	27.5	47.8	45.8	20.3	18.3	21.7	23.4
250	31.2	46.3	44.3	15.2	13.2	20.5	22.2
300	34.5	43.2	41.2	10.6	8.6	20.2	21.2
310	35.2	42.9	40.9	9.8	7.8	20.1	21.1
350	37.7	42.2	40.2	6.5	4.5	19.8	20.4
400	40.6	41.3	39.3	2.6	0.6	19.5	19.7
450	43.5	40.5	38.5	2.1	0.10	18.9	19.1
460	44.0	40.4	38.4	0	0	18.8	19.0
500	46.2	39.8	37.8			18.4	18.5
550	48.8	39.2	37.2			18.0	18.0
600	51.4	38.6	36.6			17.6	17.6

Premise Cable Electrical Table 2:

Freq. (MHz)	Input (Unfitted) Imp. (Ohms)	Fitted Impedance	Min. ELFEXT (dB)	Min. PSELFEXT (dB)
1	100 ± 12	100 ± 15	73.8	70.8
4	100 ± 12	100 ± 10.4	61.8	58.8
8	100 ± 12	100 ± 8	55.7	52.7
10	100 ± 12	100 ± 7.3	53.8	50.8
16	100 ± 12	100 ± 5.7	49.7	46.7
20	100 ± 12	100 ± 5	47.8	44.8
25	100 ± 15	100 ± 5	45.8	42.8

31.25	100 ± 15	100 ± 5	43.9	40.9
62.5	100 ± 15	100 ± 5	37.9	34.9
100	100 ± 15	100 ± 5	33.8	30.8
155	100 ± 15	100 ± 5	30.0	27.0
200	100 ± 15	100 ± 5	27.8	24.8
250	100 ± 20	100 ± 5	25.8	22.8
300	100 ± 20	100 ± 5	24.3	21.3
310	100 ± 20	100 ± 5	24.0	21.0
350	100 ± 22	100 ± 5	22.9	19.9
400	100 ± 22	100 ± 5	21.8	18.8
450	100 ± 22	100 ± 5	20.7	17.7
460	100 ± 22	100 ± 5	20.5	17.5
500	100 ± 22	100 ± 5	19.8	16.8
550	100 ± 22	100 ± 5	19.0	16.0
600	100 ± 22	100 ± 5	18.2	15.2

Notes (Overall)

Notes: Belden IBDN. Jacket sequentially marked at 2 ft/1m intervals. Third party verified to ANSI/TIA-568-C.2, Category 6.

Related Documents:

No related documents are available for this product

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7851A F6HA1000	1,000 FT	39.000 LB	GRAY, DARK PEARL		CAT6E+ 4PRB U/UTP CMR RIB
7851A F6H1000	1,000 FT	36.000 LB	GRAY, DARK PEARL	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 002A1000	1,000 FT	39.000 LB	RED		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0021000	1,000 FT	36.000 LB	RED		CAT6E+ 4PRB U/UTP CMR REEL
7851A 003A1000	1,000 FT	39.000 LB	ORANGE		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0031000	1,000 FT	36.000 LB	ORANGE	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 004A1000	1,000 FT	39.000 LB	YELLOW		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0041000	1,000 FT	36.000 LB	YELLOW	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 005A1000	1,000 FT	39.000 LB	GREEN, DARK		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0051000	1,000 FT	36.000 LB	GREEN, DARK	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 006A1000	1,000 FT	39.000 LB	BLUE, LIGHT		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0061000	1,000 FT	36.000 LB	BLUE, LIGHT	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 009A1000	1,000 FT	39.000 LB	WHITE		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0091000	1,000 FT	36.000 LB	WHITE	C	CAT6E+ 4PRB U/UTP CMR REEL
7851A 010A1000	1,000 FT	39.000 LB	BLACK		CAT6E+ 4PRB U/UTP CMR RIB
7851A 0101000	1,000 FT	36.000 LB	BLACK		CAT6E+ 4PRB U/UTP CMR REEL

Notes:
C = CRATE REEL PUT-UP.

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