

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



Description:

23 AWG bonded-pairs solid bare copper conductors, non-plenum, polyolefin insulation, patented e-spline center member, rip cord, see color code chart (below), PVC jacket (red, orange, yellow, green, blue, black, white, or gray).

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 Ripcord: Yes

Overall Cabling

Overall Cabling Fillers: 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)

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

Bulk Cable Weight: 31.300 lbs/1000 ft.

Max. Recommended Pulling Tension: 45 lbs.

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Min. Bend Radius (Install)/Minor Axis: 0.250 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR, UL444
CEC/C(UL) Specification:	CMR
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:	568-B.2-1 Category 6
Other Specification:	UL verified to Category 6

Flame Test

UL Flame Test:	UL1666 Riser
CSA Flame Test:	FT4

Plenum/Non-Plenum

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

Electrical Characteristics (Overall)

Nom. Mutual Capacitance:

Capacitance (pF/ft)
15.5

Nominal Velocity of Propagation:

VP (%)
67

Maximum Capacitance Unbalance (pF/100 m): 65.6

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:

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

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. intervals. US Patent #'s 6, 297, 454-B1; 5, 606, 151; 5, 734, 126; 5, 789, 711. Third party verified to TIA/EIA-568-B.2-1, Category 6.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7851A F6HA1000	1,000 FT	41.000 LB	GRAY, DARK PEARL		4 PR #23 PP FRPVC
7851A F6H1000	1,000 FT	38.000 LB	GRAY, DARK PEARL	C	4 PR #23 PP FRPVC
7851A 002A1000	1,000 FT	41.000 LB	RED		4 PR #23 PP FRPVC
7851A 0021000	1,000 FT	38.000 LB	RED		4 PR #23 PP FRPVC
7851A 003A1000	1,000 FT	41.000 LB	ORANGE		4 PR #23 PP FRPVC

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7851A 0031000	1,000 FT	38.000 LB	ORANGE	C	4 PR #23 PP FRPVC
7851A 004A1000	1,000 FT	41.000 LB	YELLOW		4 PR #23 PP FRPVC
7851A 0041000	1,000 FT	38.000 LB	YELLOW	C	4 PR #23 PP FRPVC
7851A 005A1000	1,000 FT	41.000 LB	GREEN, DARK		4 PR #23 PP FRPVC
7851A 0051000	1,000 FT	38.000 LB	GREEN, DARK	C	4 PR #23 PP FRPVC
7851A 006A1000	1,000 FT	41.000 LB	BLUE, LIGHT		4 PR #23 PP FRPVC
7851A 0061000	1,000 FT	38.000 LB	BLUE, LIGHT	C	4 PR #23 PP FRPVC
7851A 009A1000	1,000 FT	41.000 LB	WHITE		4 PR #23 PP FRPVC
7851A 0091000	1,000 FT	38.000 LB	WHITE	C	4 PR #23 PP FRPVC
7851A 010A1000	1,000 FT	41.000 LB	BLACK		4 PR #23 PP FRPVC
7851A 0101000	1,000 FT	38.000 LB	BLACK		4 PR #23 PP FRPVC

Notes:

C = CRATE REEL PUT-UP.

DataTwist® 600e UTP Cable

TIA/EIA-568-B.2-1, Category 6

Enhanced Category 6 Bonded-Pair Cables

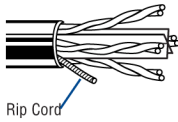
Certified System Cable

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Max. DCR (Ω/100m)	Max. DCR Unbal. (%)	Max. Cap. Unbal. (pF/100m)	Freq. (MHz)	Max. Atten. (dB/100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/100m)	Min. PSUM ELFEXT (dB/100m)	Input Imped. (Ω)	Min. RL (dB)
				Ft.	m	Lbs.	kg	Inch	mm										

23 AWG Bonded-Pairs Solid Bare Copper Conductors • Patented E-Spline Center Member • Rip Cord • See Color Code Chart (below)

Non-Plenum • Polyolefin Insulation • PVC Jacket (Available in Red, Orange, Yellow, Green, Blue, Black, White or Gray)

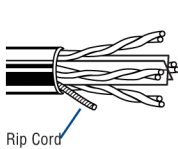
Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths	Standard Unit Wt.	Nominal OD	Max. DCR	Max. DCR Unbal.	Max. Cap. Unbal.	Freq.	Max. Atten.	Min. PSUM NEXT	Min. PSUM ACR	Min. PSUM ELFEXT	Input Imped.	Min. RL				
7851A	NEC:	4	1000	304.8	38.0	17.2	.227	5.77	8.2	3.0	65.6	1	1.9	80.3	78.5	70.8	100±12	20.0	
	CMR		A-1000	A-304.8	47.0	21.3	x	x											
	CEC:						.315	8.00											
	CMR																		



Third party verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1
Jacket sequentially marked at 2 ft. intervals. Features Descending Length Marking.

Non-Plenum • Polyolefin Insulation • Gray Haloarrest® Jacket

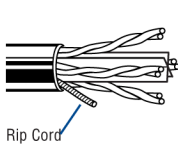
Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths	Standard Unit Wt.	Nominal OD	Max. DCR	Max. DCR Unbal.	Max. Cap. Unbal.	Freq.	Max. Atten.	Min. PSUM NEXT	Min. PSUM ACR	Min. PSUM ELFEXT	Input Imped.	Min. RL				
7851NH	NEC:	4	1000	304.8	39.0	17.7	.241	6.12	8.2	3.0	65.6	1	1.9	80.3	78.5	70.8	100±12	20.0	
	CMR		A-1000	A-304.8	48.0	21.8	x	x											
	CEC:						.329	8.36											
	CMR																		



Third party verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1
Jacket sequentially marked at 1 meter intervals. Features Descending Length Marking.

Plenum • FEP Teflon® Insulation • Flamarrest® Jacket (Available in Red, Orange, Yellow, Green, Blue, Black, White or Gray)

Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths	Standard Unit Wt.	Nominal OD	Max. DCR	Max. DCR Unbal.	Max. Cap. Unbal.	Freq.	Max. Atten.	Min. PSUM NEXT	Min. PSUM ACR	Min. PSUM ELFEXT	Input Imped.	Min. RL				
7852A	NEC:	4	1000	304.8	40.0	18.1	.218	5.54	8.2	3.0	65.6	1	1.9	80.3	78.5	70.8	100±12	20.0	
	CMP		A-1000†	A-304.8	49.0	22.2	x	x											
	CEC:						.290	7.37											
	CMP																		



† A-1000 ft. put-up not available in Red.
Third party verified to TIA/EIA-568-B.2-1, Category 6
U.S. Patents 5,606,151; 5,734,126; 5,789,711 and 6,297,454-B1
Jacket sequentially marked at 2 ft. intervals. Features descending Length marking.

ACR = Attenuation Crosstalk Ratio • DCR = DC Resistance • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • UTP = Unshielded Twisted Pair(s)
*PSUM ACR >0 is guaranteed to 460 MHz
Not RoHS compliant at time of printing.

Color Codes: DataTwist 600e

Pair No.	Color Combination
1	White/Blue Stripe & Blue
2	White/Orange Stripe & Orange
3	White/Green Stripe & Green
4	White/Brown Stripe & Brown

Teflon is a DuPont trademark.

