

## 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, 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.

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