

## 7852A Multi-Conductor - Enhanced Category 6 Bonded-Pair Cable



For more Information  
please call

1-800-Belden1

**General Description:**

CAT6+ (600MHz), 4-Bonded-Pairs, U/UTP-Unshielded, Plenum-CMP, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, FEP Insulation, Patented E-Spline, Ripcord, Flamarrest® 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   |

**Total Number of Conductors:**

8

**Insulation****Insulation Material:**

| Insulation Material                  |
|--------------------------------------|
| FEP - Fluorinated Ethylene Propylene |

**Outer Shield****Outer Shield Material:**

| Outer Shield Material |
|-----------------------|
| Unshielded            |

**Outer Jacket****Outer Jacket Material:**

| Outer Jacket Trade Name | Outer Jacket Material                 |
|-------------------------|---------------------------------------|
| Flamarrest®             | LS PVC - Low Smoke Polyvinyl Chloride |

**Outer Jacket Diameter:**

| Nom. Dia. (mm) |
|----------------|
| 6.477          |

**Outer Jacket Ripcord:**

Yes

**Overall Cable****Overall Cabling Separator Material:**

Patented E-Spline Center Member

**Overall Nominal Diameter:**

5.537 x 7.366 mm

**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

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|                                   |               |
|-----------------------------------|---------------|
| Installation Temperature Range:   | +5°C To +50°C |
| Operating Temperature Range:      | 0°C To +75°C  |
| Bulk Cable Weight:                | 55.063 Kg/Km  |
| Max. Recommended Pulling Tension: | 200.169 N     |
| Min. Bend Radius/Minor Axis:      | 12.700 mm     |
| Min. Bend/Installation:           | 57.150 mm     |

**Applicable Specifications and Agency Compliance (Overall)****Applicable Standards & Environmental Programs**

|                                       |                          |
|---------------------------------------|--------------------------|
| NEC/(UL) Specification:               | CMP                      |
| NEC Articles:                         | 800                      |
| CEC/C(UL) Specification:              | CMP                      |
| EU Directive 2011/65/EU (ROHS II):    | Yes                      |
| 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): | 07/01/2006               |
| 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 |

**Applicable Patents:**

| Country | Patent  |
|---------|---------|
| US      | 5606151 |
| US      | 6064503 |
| US      | 6885889 |
| US      | 7663061 |
| US      | 7838773 |
| US      | 7977575 |
| US      | 8536455 |

**Flame Test**

|                   |                                         |
|-------------------|-----------------------------------------|
| UL Flame Test:    | NFPA 262 Plenum Flame Test (UL910)(FT6) |
| C(UL) Flame Test: | FT6                                     |
| CSA Flame Test:   | FT6                                     |

**Plenum/Non-Plenum**

|                    |       |
|--------------------|-------|
| Plenum (Y/N):      | Yes   |
| Non-Plenum Number: | 7851A |

**Electrical Characteristics (Overall)****Nom. Mutual Capacitance:**

| Capacitance (pF/m) |
|--------------------|
| 50.8555            |

|                                           |    |
|-------------------------------------------|----|
| Maximum Capacitance Unbalance (pF/100 m): | 90 |
|-------------------------------------------|----|

**Nominal Velocity of Propagation:**

| VP (%) |
|--------|
| 67     |

## 7852A Multi-Conductor - Enhanced Category 6 Bonded-Pair Cable

### 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) |
|-------------|-----------------------------|----------------|------------------|---------------|-----------------|-------------|
| 1           | 1.900                       | 82.3           | 80.3             | 80.5          | 78.5            | 20.000      |
| 4           | 3.600                       | 73.3           | 71.3             | 69.7          | 67.7            | 23.000      |
| 8           | 5.100                       | 68.8           | 66.8             | 63.7          | 61.7            | 24.500      |
| 10          | 5.700                       | 67.3           | 65.3             | 61.6          | 59.6            | 25.000      |
| 16          | 7.200                       | 64.3           | 62.3             | 57.0          | 55.0            | 25.000      |
| 20          | 8.100                       | 62.8           | 60.8             | 54.7          | 52.7            | 25.000      |
| 25          | 9.100                       | 61.3           | 59.3             | 52.3          | 50.3            | 25.000      |
| 31.25       | 10.200                      | 59.9           | 57.9             | 49.7          | 47.7            | 25.000      |
| 62.5        | 14.700                      | 55.4           | 53.4             | 40.7          | 38.7            | 25.000      |
| 100         | 18.900                      | 52.3           | 50.3             | 33.4          | 31.4            | 25.000      |
| 155         | 23.900                      | 49.5           | 47.5             | 25.5          | 23.5            | 22.800      |
| 200         | 27.500                      | 47.8           | 45.8             | 20.3          | 18.3            | 21.600      |
| 250         | 31.200                      | 46.3           | 44.3             | 15.2          | 13.2            | 20.500      |
| 300         | 34.500                      | 43.2           | 43.2             | 8.6           | 8.6             | 20.200      |
| 350         | 37.700                      | 42.1           | 42.1             | 4.4           | 4.4             | 19.800      |
| 400         | 40.600                      | 41.3           | 41.3             | 0.7           | 0.7             | 19.500      |
| 450         | 43.500                      | 40.5           | 40.5             | 0             | 0               | 18.900      |
| 460         | 44.000                      | 40.4           | 40.4             | 0             | 0               | 18.800      |
| 500         | 46.200                      | 39.8           | 39.8             |               |                 | 18.400      |
| 550         | 48.800                      | 39.2           | 39.2             |               |                 | 18.000      |
| 600         | 51.400                      | 38.6           | 38.6             |               |                 | 17.600      |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Fitted Impedance | Min. ACRF (dB) | Min. PSACRF (dB) |
|-------------|------------------------------|------------------|----------------|------------------|
| 1           | 100 ± 12                     | 100 ± 15         | 74.8           | 72.8             |
| 4           | 100 ± 12                     | 100 ± 10.4       | 62.8           | 60.8             |
| 8           | 100 ± 12                     | 100 ± 8          | 56.7           | 54.7             |
| 10          | 100 ± 12                     | 100 ± 7.3        | 54.8           | 52.8             |
| 16          | 100 ± 12                     | 100 ± 5.7        | 50.7           | 48.7             |
| 20          | 100 ± 12                     | 100 ± 5          | 48.8           | 46.8             |
| 25          | 100 ± 15                     | 100 ± 5          | 46.8           | 44.8             |
| 31.25       | 100 ± 15                     | 100 ± 5          | 44.9           | 42.9             |
| 62.5        | 100 ± 15                     | 100 ± 5          | 38.9           | 36.9             |
| 100         | 100 ± 15                     | 100 ± 5          | 34.8           | 32.8             |
| 155         | 100 ± 15                     | 100 ± 5          | 31.0           | 29.0             |
| 200         | 100 ± 15                     | 100 ± 5          | 28.8           | 26.8             |
| 250         | 100 ± 20                     | 100 ± 5          | 26.8           | 24.8             |
| 300         | 100 ± 20                     | 100 ± 5          | 25.3           | 23.3             |
| 350         | 100 ± 22                     | 100 ± 5          | 23.9           | 21.9             |

## METRIC MEASUREMENT VERSION

## 7852A Multi-Conductor - Enhanced Category 6 Bonded-Pair Cable

|     |          |         |      |      |
|-----|----------|---------|------|------|
| 400 | 100 ± 22 | 100 ± 5 | 22.8 | 20.8 |
| 450 | 100 ± 22 | 100 ± 5 | 21.7 | 19.7 |
| 460 | 100 ± 22 | 100 ± 5 | 21.5 | 19.5 |
| 500 | 100 ± 22 | 100 ± 5 | 20.8 | 18.8 |
| 550 | 100 ± 22 | 100 ± 5 | 20.0 | 18.0 |
| 600 | 100 ± 22 | 100 ± 5 | 19.2 | 17.2 |

## Notes (Overall)

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

## Put Ups and Colors:

| Item #         | Putup  | Ship Weight | Color       | Notes | Item Desc                  |
|----------------|--------|-------------|-------------|-------|----------------------------|
| 7852A D15A1000 | 305 MT | 19.958 KG   | BLUE        |       | CAT6E+ 4PRB U/UTP CMP RIB  |
| 7852A D151000  | 305 MT | 18.597 KG   | BLUE        | C     | CAT6E+ 4PRB U/UTP CMP REEL |
| 7852A 0021000  | 305 MT | 18.597 KG   | RED         |       | CAT6E+ 4PRB U/UTP CMP REEL |
| 7852A 003A1000 | 305 MT | 19.958 KG   | ORANGE      | C     | CAT6E+ 4PRB U/UTP CMP RIB  |
| 7852A 0031000  | 305 MT | 18.597 KG   | ORANGE      | C     | CAT6E+ 4PRB U/UTP CMP REEL |
| 7852A 004A1000 | 305 MT | 19.958 KG   | YELLOW      |       | CAT6E+ 4PRB U/UTP CMP RIB  |
| 7852A 0041000  | 305 MT | 18.597 KG   | YELLOW      | C     | CAT6E+ 4PRB U/UTP CMP REEL |
| 7852A 005A1000 | 305 MT | 19.958 KG   | GREEN, DARK |       | CAT6E+ 4PRB U/UTP CMP RIB  |
| 7852A 0051000  | 305 MT | 18.597 KG   | GREEN, DARK | C     | CAT6E+ 4PRB U/UTP CMP REEL |
| 7852A 008A1000 | 305 MT | 19.958 KG   | GRAY        |       | CAT6E+ 4PRB U/UTP CMP RIB  |
| 7852A 0081000  | 305 MT | 18.597 KG   | GRAY        |       | CAT6E+ 4PRB U/UTP CMP REEL |
| 7852A 009A1000 | 305 MT | 19.958 KG   | WHITE       |       | CAT6E+ 4PRB U/UTP CMP RIB  |
| 7852A 0091000  | 305 MT | 18.597 KG   | WHITE       | C     | CAT6E+ 4PRB U/UTP CMP REEL |
| 7852A 0101000  | 305 MT | 18.597 KG   | BLACK       |       | CAT6E+ 4PRB U/UTP CMP REEL |

**Notes:**

C = CRATE REEL PUT-UP.

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