BELDEN
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# Product: 7852A

## Category 6+ Enhanced Cable, 4 Bonded-Pairs, U/UTP, CMP

### Product Description

Category 6+ Enhanced Premise Horizontal Cable (600MHz), 4 Bonded-Pairs, 23 AWG Solid Bare Copper Conductors, U/UTP, Plenum-CMP, Flamarrest® PVC-LS Jacket

### Technical Specifications

#### Product Overview

| | |
|---|---|
| Suitable Applications: | Premise Horizontal Cable, Ethernet 1000BASE-T, Ethernet 100BASE-TX, Ethernet 10BASE-T, PoE++, PoE+, PoE |
| Patent: | This product has one or more applicable patents. More information on patents can be found at https://www.belden.com/resources/patents. |

#### Construction Details

**Conductor**

| AWG | Stranding | Material | Number of Pairs |
|---|---|---|---|
| 23 | Solid | BC - Bare Copper | 4 |

**Insulation**

| Material | Color Code |
|---|---|
| FEP - Fluorinated Ethylene Propylene | White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown |

| | |
|---|---|
| Bonded-Pair: | Yes |

**Outer Jacket Material**

| Separator Material | Material | Material Trade Name | Nom. Diameter | Ripcord |
|---|---|---|---|---|
| Center Member (Patented E-Spline®) | PVC - Polyvinyl Chloride | Flamarrest® | 0.266 in | Yes |

#### Electrical Characteristics

**Electricals**

| Max. Conductor DCR | Max. DCR Unbalance | Max. Capacitance Unbalance | Nom. Mutual Capacitance |
|---|---|---|---|
| 82 Ohm/km | 3% | 90 pF/100m | 15.5 pF/ft |

**Delay**

| Frequency [MHz] | Max. Delay | Max. Delay Skew | Nom. Velocity of Propagation (VP) [%] |
|---|---|---|---|
| 100 MHz | 537.6 ns/100m | 38 ns/100m | 67% |

**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 | | |

**Voltage**

| UL Voltage Rating |
|---|
| 300 V (CMP), 300 V (CL3P) |

## Mechanical Characteristics

**Temperature**

| UL Rating. | Operating | Installation | Storage |
|---|---|---|---|
| 105°C | -20°C To +75°C | 0°C To +50°C | -20°C To +75°C |

**Bend Radius**

| Stationary Min. | Installation Min. |
|---|---|
| 0.5 in | 2.25 in |

| | |
|---|---|
| Max. Pull Tension: | 40 lbs |
| Bulk Cable Weight: | 38 lbs/1000ft |

## Standards and Compliance

| | |
|---|---|
| Environmental Suitability: | Plenum, Indoor |
| Sustainability: | Product Lens™, Environmental Product Declaration (EPD) Available |
| Flammability / Fire Resistance: | NFPA 262, UL 910 (Plenum), FT6, FT6, IEC 60332-1-2 |
| NEC / UL Compliance: | 800, CMP;CMP-LP (0.6A);CL3P-LP (0.6A) |
| CEC / C(UL) Compliance: | CMP |
| ICEA Compliance: | S-116-732-2013 |
| IEEE Compliance: | IEEE 802.3bt Type 1, Type 2, Type 3, Type 4 |
| NEMA Compliance: | ANSI/NEMA WC-66 |
| Data Category: | Category 6 |
| TIA/EIA Compliance: | ANSI/TIA-568.2-D Category 6 |
| Cenelec Compliance: | Segregation class according EN50174-2=a |
| CPR Euroclass: | Eca |
| European Directive Compliance: | EU CE Mark, EU Directive 2015/863/EU, EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16 |
| APAC Compliance: | China RoHS II (GB/T 26572-2011) |

## Part Number

| | |
|---|---|
| Non-Plenum Number: | 7851A |

**Variants**

| Item # | Color | Putup Type | Length | UPC |
|---|---|---|---|---|
| 7852A D15Z1000 | | | | 612825433385 |
| 7852A 0101000 | Black | Reel | 1,000 ft | 612825190486 |
| 7852A D151000 | Blue | Reel | 1,000 ft | 612825190363 |
| 7852A D15A1000 | Blue | Reel-in-Box | 1,000 ft | 612825190356 |

| | | | | |
|---|---|---|---|---|
| 7852A 0081000 | Gray | Reel | 1,000 ft | 612825190455 |
| 7852A 008A1000 | Gray | Reel-in-Box | 1,000 ft | 612825190448 |
| 7852A 0051000 | Green | Reel | 1,000 ft | 612825190431 |
| 7852A 005A1000 | Green | Reel-in-Box | 1,000 ft | 612825190424 |
| 7852A 0031000 | Orange | Reel | 1,000 ft | 612825190394 |
| 7852A 003A1000 | Orange | Reel-in-Box | 1,000 ft | 612825190387 |
| 7852A 0021000 | Red | Reel | 1,000 ft | 612825190370 |
| 7852A 0091000 | White | Reel | 1,000 ft | 612825190479 |
| 7852A 009A1000 | White | Reel-in-Box | 1,000 ft | 612825190462 |
| 7852A 0041000 | Yellow | Reel | 1,000 ft | 612825190417 |
| 7852A 004A1000 | Yellow | Reel-in-Box | 1,000 ft | 612825190400 |

## Product Notes

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| Notes: | Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Values above 600 MHz are for Engineering Information Only. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0. |

## History

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|---|---|
| Update and Revision: | Revision Number: 0.410 Revision Date: 09-30-2020 |