



Product: [2302ELZ](#)

Cat 6A Cable, U/UTP, LSZH, 4 Pair, AWG 23, Indoor CPR Eca

Product Description

Cat. 6A (500MHz), 4-Pair, U/UTP Unshielded, Premise Horizontal Cable, 23 AWG solid bare copper conductors, Polyethylene insulation, LSZH jacket

Technical Specifications

Product Overview

| | |
|------------------------|--|
| Suitable Applications: | Horizontal and building backbone cable; Support current and future Cat. 6a and 6 applications such as; 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI and ATM |
| Patent: | This product has one or more applicable patents. More information on patents can be found at https://www.belden.com/resources/patents . |

Physical Characteristics (Overall)

Conductor

| AWG | Stranding | Material | No. of Pairs |
|-----|-----------|------------------|--------------|
| 23 | Solid | BC - Bare Copper | 4 |

| | |
|------------------------|---|
| Conductor Count: | 8 |
| Total Number of Pairs: | 4 |

Insulation

| Material | Nominal Diameter |
|-----------------|------------------|
| PO - Polyolefin | 1.18 mm |

| | |
|--------------|----|
| Bonded-Pair: | No |
|--------------|----|

Color Chart

| Number | Color |
|--------|-------------------------|
| Pair 1 | White / Blue & Blue |
| Pair 2 | White / Orange & Orange |
| Pair 3 | White / Green & Green |
| Pair 4 | White / Brown & Brown |

Outer Shield Material

| Type | Material |
|------|------------|
| Tape | EquiBlock® |

Outer Jacket Material

| Material | Nominal Diameter | Diameter +/- Tolerance |
|---|------------------|------------------------|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) | 7.2 mm | 0.3 mm |

Electrical Characteristics

Conductor DCR

| Max. Conductor DCR | Max DCR Unbalanced Between Pairs [%] | Max. DCR Unbalanced Within Pair [%] |
|--------------------|--------------------------------------|-------------------------------------|
| 9.5 Ohm/km | 4 % | 2 % |

Capacitance

| Max. Capacitance Unbalanced Pair to Pair | Max. Mutual Capacitance |
|--|-------------------------|
| 1,600 pF/m | 56 pF/m |

Delay

| Max. Delay Skew | Nominal Velocity of Propagation (VP) [%] |
|-----------------|--|
| 45 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] | Min. PSANEXT | Min. PSAACRF | Min. TCL [dB] | Min. ELTCTL [dB] |
|-----------------|-----------------------------------|----------------|------------------|---------------|-----------------|-------------------------|-----------------------------|----------------------------|--------------|--------------|---------------|------------------|
| 1 MHz | 2.1 dB/100m | 75.3 dB | 72.3 dB | 73.2 dB | 70.2 dB | 68.0 dB | 65 dB | 20 dB | 67.0 dB | 67 dB | 40 dB | 35 dB |
| 4 MHz | 3.8 dB/100m | 66.3 dB | 63.3 dB | 62.5 dB | 59.5 dB | 56.0 dB | 53 dB | 23 dB | 67.0 dB | 66.2 dB | 40 dB | 23 dB |
| 10 MHz | 5.9 dB/100m | 60.3 dB | 57.3 dB | 54.4 dB | 51.4 dB | 48.0 dB | 45 dB | 25 dB | 67.0 dB | 58.2 dB | 40 dB | 15 dB |
| 16 MHz | 7.5 dB/100m | 57.2 dB | 54.2 dB | 49.8 dB | 46.8 dB | 43.9 dB | 40.9 dB | 25 dB | 67.0 dB | 54.1 dB | 38 dB | 10.9 dB |
| 31.2 MHz | 10.5 dB/100m | 52.9 dB | 49.9 dB | 42.4 dB | 39.4 dB | 38.1 dB | 35.1 dB | 23.6 dB | 67.0 dB | 48.3 dB | 35.1 dB | 5.1 dB |
| 62.5 MHz | 15.0 dB/100m | 48.4 dB | 45.4 dB | 33.4 dB | 30.4 dB | 32.1 dB | 29.1 dB | 21.5 dB | 65.6 dB | 42.3 dB | 32 dB | |
| 100 MHz | 19.1 dB/100m | 45.3 dB | 42.3 dB | 26.2 dB | 23.2 dB | 28.0 dB | 25 dB | 20.1 dB | 62.5 dB | 38.2 dB | 30 dB | |
| 125 MHz | 21.5 dB/100m | 43.8 dB | 40.8 dB | 22.3 dB | 19.3 dB | 26.1 dB | 23.1 dB | 19.4 dB | 61.0 dB | 36.3 dB | 29 dB | |
| 200 MHz | 27.6 dB/100m | 40.8 dB | 37.8 dB | 13.2 dB | 10.2 dB | 22.0 dB | 19 dB | 18.0 dB | 58.0 dB | 32.2 dB | 27 dB | |
| 250 MHz | 31.1 dB/100m | 39.3 dB | 36.3 dB | 8.3 dB | 5.3 dB | 20.0 dB | 17 dB | 17.3 dB | 56.5 dB | 30.2 dB | 26 dB | |
| 300 MHz | 34.3 dB/100m | 38.1 dB | 35.1 dB | 3.9 dB | 0.9 dB | 18.5 dB | 15.5 dB | 17.3 dB | 55.3 dB | 28.7 dB | | |
| 500 MHz | 35.3 dB/100m | 34.8 dB | 31.8 dB | -10.4 dB | -13.4 dB | 14.0 dB | 11 dB | 17.3 dB | 52.0 dB | 24.2 dB | | |

Segregation class according EN50174-2: b

Current

| Max. Recommended Current [A] |
|------------------------------|
| 1.5 Amps per Conductor |

Voltage

| Voltage Rating [V] |
|--------------------|
| 72 V DC |

Temperature Range

| | |
|--------------------------|----------------|
| Installation Temp Range: | 0°C To +50°C |
| Operating Temp Range: | -30°C To +60°C |

Mechanical Characteristics

| | |
|--------------------|----------|
| Bulk Cable Weight: | 50 kg/km |
| Max. Pull Tension: | 80 N |

Standards

| | |
|---------------------|--|
| IEC Compliance: | ISO/IEC 11801-1 |
| CPR Euroclass: | Eca |
| CENELEC Compliance: | EN 50173-1 |
| Data Category: | Category 6A |
| ANSI Compliance: | ANSI/TIA 568.2-D (2018) |
| IEEE Compliance: | PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4 |

Applicable Environmental and Other Programs

| | |
|---------------------------------------|------------------------|
| Environmental Space: | Indoor - Euroclass Eca |
| EU RoHS Compliance Date (yyyy-mm-dd): | 2015-08-25 |

Flammability, LSOH, Toxicity Testing

| | |
|---|---------------|
| IEC Flammability: | IEC 60332-1-2 |
| Burning Load: | 745 kJ/m |
| IEC 60754-1 (EN50267-1)- Halogen Amount: | Zero |
| IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Max. Conductivity: | 2.5 µS/mm |
| IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Min. pH: | 4.3 |

Part Number

Variants

| Item # | Color | Putup Type | Length | EAN |
|---------------|-------|------------|--------|---------------|
| 2302ELZ.06500 | Blue | Reel | 500 m | 8719605170439 |

Product Notes

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|--------|--|
| Notes: | Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. |
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History

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| Update and Revision: | Revision Number: 0.41 Revision Date: 11-12-2020 |
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