

METRIC MEASUREMENT VERSION

# 9L28009 Flat - Gray Ribbon 9L280XX Series



For more Information please call

1-800-Belden1



# **General Description:**

Belden<sup>s</sup> .050" pitch gray ribbon cable was designed for general purpose electronic interconnect applications. The cable provides reliable mass-termination to standard IDC connectors.

| Physical Characteristics (Overall)                  |                        |  |  |  |
|---|------------------------|--|--|--|
| Conductor<br>AWG:                                   |                        |  |  |  |
| # Conductors AWG Stranding Conductor Material       |                        |  |  |  |
| 9 28 7x36 TC - Tinned Copper                        |                        |  |  |  |
| Total Number of Conductors:                         | 9                      |  |  |  |
| Conductor Spacing Center to Center:                 | .050 +/002             |  |  |  |
| Conductor Spacing Outside Center to Outside Center: | .40 +/008              |  |  |  |
| Insulation<br>Insulation Material:                  |                        |  |  |  |
| Insulation Material Wall Thickness (mm)             |                        |  |  |  |
| PVC - Polyvinyl Chloride 0.254                      |                        |  |  |  |
| Insulation Resistance:                              | >10,000 Megaohms       |  |  |  |
| Outer Shield  |                        |  |  |  |
| Outer Shield Material:                              |                        |  |  |  |
| Outer Shield Material<br>Unshielded                 |                        |  |  |  |
| Overall Cable                                       |                        |  |  |  |
| Overall Nominal Thickness:                          | .035 +/003             |  |  |  |
| Overall Nominal Width:                              | .45 +/006              |  |  |  |
| Mechanical Characteristics (Overall)                |                        |  |  |  |
| Operating Temperature Range:                        | -40°C To +105°C        |  |  |  |
| Bulk Cable Weight:                                  | 14.882 Kg/Km           |  |  |  |
| Applicable Specifications and Agency Con            | npliance (Overall)     |  |  |  |
| Applicable Standards & Environmental Progra         | ms                     |  |  |  |
| UL Rating:  | 105°C, 300 V RMS, VW-1 |  |  |  |
| CSA Rating:   | 105°C, 300 V RMS, FT1  |  |  |  |
| 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):               | 07/01/2005             |  |  |  |
| EU Directive 2002/96/EC (WEEE):                     | Yes                    |  |  |  |
|   |                        |  |  |  |

# **Detailed Specifications & Technical Data**



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| CSA Flame Test:                   | FT1  |  |
|-----------------------------------|------|--|
| UL Flame Test:                    | VW-1 |  |
| Flame Test                        |      |  |
| MII Order #39 (China RoHS):       | Yes  |  |
| CA Prop 65 (CJ for Wire & Cable): | Yes  |  |
| EU Directive 2003/11/EC (BFR):    | Yes  |  |

## Surface Printing (Overall)

# **Electrical Characteristics (Overall)**

### Nom. Characteristic Impedance:

## Description Impedance (Ohm)

(GS) 150 (GSG) 105

#### Nom. Inductance:

| Description   | Inductance (µH/m) |
|---------------|-------------------|
| @ 1 MHz (GS)  | 0.95149           |
| @ 1 MHz (GSG) | 0.6562            |

#### Nom. Capacitance Conductor to Conductor:

## Description Capacitance (pF/m)

| 59.058 |
|--------|
| 32.81  |
| 49.215 |
|        |

## Nominal Velocity of Propagation:

Description VP (%)

## 72

Nominal Delay:

Delay (ns/m) 1.40 NS/FT. (GSG)

Nom. Conductor DC Resistance:

#### DCR @ 20°C (Ohm/km)

68.2 OHMS/1000 FT. MAX.

## Nom. Attenuation:

#### Freq. (MHz) Attenuation (dB/100m)

| 10  | 9.1868  |
|-----|---------|
| 20  | 15.7488 |
| 30  | 21.3265 |
| 40  | 27.2323 |
| 50  | 32.1538 |
| 60  | 39.372  |
| 70  | 42.653  |
| 80  | 45.934  |
| 90  | 51.8398 |
| 100 | 55.777  |
|     |         |

#### Max. Operating Voltage - UL:

Voltage

300 V RMS

#### Max. Recommended Current:

Current 1 Amp per conductor @ 20°C

**Dielectric Withstand Voltage:** 

2, 000 V RMS

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#### Typical Unbalanced Crosstalk:

| Description          | Pulse Rise Time (NS) (MHz) | Near End % (MHz) | Far End % (MHz) |
|----------------------|----------------------------|------------------|-----------------|
| 10 ft. sample length | 3                          | 4.8              | 7               |
| 10 ft. sample length | 5                          | 3.5              | 4.7             |
| 10 ft. sample length | 7                          | 3                | 3               |

## Notes (Overall)

Notes: GSG=Ground-Signal-Ground Mode

### **Polarity Identification (Overall)**

Polarity Identification:

RED POLARITY STRIPE ON #1 CONDUCTOR

### **Put Ups and Colors:**

| Item #          | Putup | Ship Weight | Color | Notes | Item Desc                     |
|-----------------|-------|-------------|-------|-------|-------------------------------|
| 9L28009 008H100 | 30 MT | 0.499 KG    | GRAY  |       | 9 #28 STR PVC RIBBON (SMI 80) |
| 9L28009 008H300 | 91 MT | 1.905 KG    | GRAY  |       | 9 #28 STR PVC RIBBON          |

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