



**Product:** [9L28309](#)

Shielded Flat Ribbon Cable .050" Pitch, 9L283XX Series, #28-9c, PVC Ins, O/A Foil Tape, PVC Jacket

**Product Description**

Shielded Flat Ribbon Cable .050" Pitch, 9L283XX Series, 9 Conductor, 28 AWG (7x36) Tinned Copper, Gray PVC Insulation, Beldfoil® Tape, Black PVC Jacket

**Technical Specifications**

**Product Overview**

|                        |                                                                                                                                             |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Applications: | Internal interconnection, internal wiring of electronic equipment, reliable mass-termination to standard IDC connectors, noisy environments |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|

**Physical Characteristics (Overall)**

| Conductor        |           |                    |
|------------------|-----------|--------------------|
| AWG              | Stranding | Material           |
| 28               | 7x36      | TC - Tinned Copper |
| Conductor Count: |           | 9                  |

| <b>Insulation</b>        |                        |
|--------------------------|------------------------|
| Material                 | Nominal Wall Thickness |
| PVC - Polyvinyl Chloride | 0.010 in               |

| <b>Color Chart</b> |                                |
|--------------------|--------------------------------|
| Color              |                                |
| Gray               |                                |
| Table Notes:       | First Conductor has Red Stripe |

| <b>Outer Shield</b> |                         |                     |              |                    |               |                              |
|---------------------|-------------------------|---------------------|--------------|--------------------|---------------|------------------------------|
| Type                | Material                | Material Trade Name | Coverage [%] | Drainwire Material | Drainwire AWG | Drainwire Construction n x D |
| Tape                | Bi-Laminate (Alum+Poly) | Beldfoil®           | 100%         | TC - Tinned Copper | 28            | 7x36                         |

| <b>Outer Jacket</b>      |                        |
|--------------------------|------------------------|
| Material                 | Nominal Wall Thickness |
| PVC - Polyvinyl Chloride | 0.038 in               |

**Construction and Dimensions**

|                                          |                  |
|------------------------------------------|------------------|
| Conductor Spacing Center-Center:         | .050 +/- .002 in |
| Conductor Spacing Center-Center Outside: | .400 +/- .008 in |
| OuterJacket1, Nominal Width:             | .520 in          |
| OuterJacket1, Nom Thick Flat Section:    | 0.115 in         |

**Electrical Characteristics**

| <b>Conductor DCR</b>  |  |
|-----------------------|--|
| Nominal Conductor DCR |  |
| 68.2 Ohm/1000ft       |  |

**Capacitance**

| Element                            | Nom. Capacitance Conductor to Conductor |
|------------------------------------|-----------------------------------------|
| @ 1 kHz (GSG) with shield grounded | 70 pF/ft                                |
| @ 1 MHz (GSG) with shield grounded | 50 pF/ft                                |

|                            |             |
|----------------------------|-------------|
| Min Insulation Resistance: | 10,000 MOhm |
|----------------------------|-------------|

Inductance

| Element                            | Nominal Inductance |
|------------------------------------|--------------------|
| @ 1 MHz (GSG) with shield grounded | 0.11 µH/ft         |

Impedance

| Nominal Characteristic Impedance | Nominal Characteristic Impedance Description |
|----------------------------------|----------------------------------------------|
| 45 Ohm                           | (GSG) with shield grounded                   |

High Frequency (Nominal/Typical)

| Frequency [MHz] | Nom. Insertion Loss |
|-----------------|---------------------|
| 10 MHz          | 6 dB/100ft          |
| 20 MHz          | 9.5 dB/100ft        |
| 30 MHz          | 12.5 dB/100ft       |
| 40 MHz          | 14.9 dB/100ft       |
| 50 MHz          | 17.2 dB/100ft       |
| 60 MHz          | 19 dB/100ft         |
| 70 MHz          | 21.5 dB/100ft       |
| 80 MHz          | 23 dB/100ft         |
| 90 MHz          | 24.5 dB/100ft       |
| 100 MHz         | 26 dB/100ft         |

|              |                               |
|--------------|-------------------------------|
| Table Notes: | GSG=Ground-Signal-Ground Mode |
|--------------|-------------------------------|

Delay

| Nominal Delay | Nominal Velocity of Propagation (VP) [%] |
|---------------|------------------------------------------|
| 1.7 ns/ft     | 60%                                      |

Unbalanced Crosstalk

| Element                                              | Typical Unbalanced NEXT % | Typical Unbalanced FEXT % | Typical Cross Talk Pulse Rise Time (ns) |
|------------------------------------------------------|---------------------------|---------------------------|-----------------------------------------|
| 10 ft. sample length with ground connected to shield | 1.5                       | 2                         | 3 ns                                    |
| 10 ft. sample length with ground connected to shield | 0.9                       | 1.5                       | 5 ns                                    |
| 10 ft. sample length with ground connected to shield | 0.7                       | 1.2                       | 7 ns                                    |

Current

| Max. Recommended Current [A] |
|------------------------------|
| 1 Amp per Conductor at 20°C  |

Voltage

| Dielectric Withstand Voltage | UL Voltage Rating |
|------------------------------|-------------------|
| 2000 V                       | 300 V             |

Temperature Range

|                              |                 |
|------------------------------|-----------------|
| Operating Temperature Range: | -20°C to +105°C |
|------------------------------|-----------------|

Mechanical Characteristics

|                                       |               |
|---------------------------------------|---------------|
| Bulk Cable Weight:                    | 44 lbs/1000ft |
| Min. Bend Radius During Installation: | 3.0 in        |
| Min. Bend Radius/Minor Axis:          | 1.25 in       |

Standards

|                          |           |
|--------------------------|-----------|
| UL AWM Style Compliance: | AWM 20081 |
| CSA AWM Compliance:      | II A      |

Applicable Environmental and Other Programs

|                                   |     |
|-----------------------------------|-----|
| EU Directive 2000/53/EC (ELV):    | Yes |
| EU Directive 2003/96/EC (BFR):    | Yes |
| EU Directive 2011/65/EU (RoHS 2): | Yes |
| EU Directive 2012/19/EU (WEEE):   | Yes |

|                                              |                               |
|----------------------------------------------|-------------------------------|
| EU Directive 2015/863/EU (RoHS 2 amendment): | Yes                           |
| EU Directive Compliance:                     | EU Directive 2003/11/EC (BFR) |
| EU CE Mark:                                  | Yes                           |
| CA Prop 65 (CJ for Wire and Cable):          | Yes                           |
| MIL Order #39 (China RoHS):                  | Yes                           |

Suitability

|                       |     |
|-----------------------|-----|
| Suitability - Indoor: | Yes |
|-----------------------|-----|

Flammability, LS0H, Toxicity Testing

|                    |       |
|--------------------|-------|
| UL Flammability:   | VW-1  |
| UL voltage rating: | 300 V |

Plenum/Non-Plenum

|               |    |
|---------------|----|
| Plenum (Y/N): | No |
|---------------|----|

Related Part Numbers

Variants

| Item #         | Color | Put-Up Type | Length | UPC          |
|----------------|-------|-------------|--------|--------------|
| 9L28309 010100 | Black | Reel        | 100 ft | 612825221722 |

|           |                                                                            |
|-----------|----------------------------------------------------------------------------|
| Footnote: | E - MAY CONTAIN MORE THAN 1 PIECE. MINIMUM LENGTH OF ANY ONE PIECE IS 25'. |
|-----------|----------------------------------------------------------------------------|

History

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.412 Revision Date: 05-05-2023 |
|----------------------|--------------------------------------------------|

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