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1-800-Belden1



## Description:

Belden's .050" pitch, color-coded PVC flat cable allows for quick identification and circuit tracing, along with easy breakouts for circuit routing, and is designed for mass-termination with standard IDC connectors.

## Physical Characteristics (Overall)

### Conductor

#### AWG:

| # Conductors | AWG | Stranding | Conductor Material |
|--------------|-----|-----------|--------------------|
| 25           | 28  | 7x36      | TC - Tinned Copper |

Conductor Spacing Center to Center: .050 +/- .005

Conductor Spacing Outside Center to Outside Center: 1.20 +/- .008

### Insulation

#### Insulation Material:

| Insulation Material      | Wall Thickness (in.) |
|--------------------------|----------------------|
| PVC - Polyvinyl Chloride | 0.005                |

Insulation Resistance: >10, 000 Mega Ohms

#### Insulation Color Code Chart:

| Number             | Color              |
|--------------------|--------------------|
| 1                  | Brown              |
| 2                  | Red                |
| 3                  | Orange             |
| 4                  | Yellow             |
| 5                  | Green              |
| 6                  | Blue               |
| 7                  | Purple             |
| 8                  | Gray               |
| 9                  | White              |
| 10                 | Black              |
| Over 10 conductors | Repeat as required |

### Outer Shield

#### Outer Shield Material:

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

### Outer Jacket

#### Outer Jacket Material:

| Outer Jacket Material |
|-----------------------|
| Clear PVC             |

### Overall Cable

Overall Nominal Thickness: .036 +/- .002

Overall Nominal Width: 1.25

## Mechanical Characteristics (Overall)

## 9R28025 Flat - Rainbow 9R280XX Series

Operating Temperature Range: -20°C To +105°C

Bulk Cable Weight: 32 lbs/1000 ft.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

UL Rating: AWM 20932, 105°C, 300 V RMS, VW-1

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): 10/01/2005

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

#### Flame Test

UL Flame Test: VW-1

#### Plenum/Non-Plenum

Plenum (Y/N): No

### Electrical Characteristics (Overall)

#### Nom. Characteristic Impedance:

| Description | Impedance (Ohm) |
|-------------|-----------------|
| (GS)        | 150             |
| (GSG)       | 105             |

#### Nom. Inductance:

| Description   | Inductance (µH/ft) |
|---------------|--------------------|
| @ 1 MHz (GS)  | .29                |
| @ 1 MHz (GSG) | .20                |

#### Nom. Capacitance Conductor to Conductor:

| Description   | Capacitance (pF/ft) |
|---------------|---------------------|
| @ 1 kHz (GSG) | 18                  |
| @ 1 MHz (GS)  | 10                  |
| @ 1 MHz (GSG) | 15                  |

#### Nominal Velocity of Propagation:

| Description | VP (%) |
|-------------|--------|
|             | 72     |

#### Nominal Delay:

| Delay (ns/ft)     |
|-------------------|
| 1.40 NS/FT. (GSG) |

#### Nom. Conductor DC Resistance:

| DCR @ 20°C (Ohm/1000 ft) |
|--------------------------|
| 68.2 OHMS/1000 FT. MAX.  |

#### Nom. Attenuation:

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|-------------|--------------------------|
| 10          | 2.8                      |
| 20          | 4.8                      |
| 30          | 6.5                      |
| 40          | 8.3                      |
| 50          | 9.8                      |
| 60          | 12                       |
| 70          | 13                       |
| 80          | 14                       |

|     |      |
|-----|------|
| 90  | 15.8 |
| 100 | 17   |

**Max. Operating Voltage - UL:**

|                |
|----------------|
| <b>Voltage</b> |
| 300 V RMS      |

**Max. Recommended Current:**

|                            |
|----------------------------|
| <b>Current</b>             |
| 1 Amp per conductor @ 20°C |

**Dielectric Withstand Voltage:** 2, 000 V RMS

**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:** GS=Ground-Signal Mode; GSG=Ground-Signal-Ground Mode

**Related Documents:**

No related documents are available for this product

**Put Ups and Colors:**

| Item #         | Putup  | Ship Weight | Color | Notes | Item Desc          |
|----------------|--------|-------------|-------|-------|--------------------|
| 9R28025 000100 | 100 FT | 2.800 LB    | NONE  |       | 25 #28 PVC RAINBOW |

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