



## Product: [8281B](#)

Precision Video Coax, RG59, #20 Solid BC, Double 98% Braid, CMR



### Product Description

20 AWG solid .031" bare copper conductor, flame-retardant semi-foam polyethylene insulation, tinned copper/bare copper double braid shield (95% coverage), PVC jacket.

### Technical Specifications

#### Physical Characteristics (Overall)

##### Conductor

| AWG | Stranding | Material         | Nominal Diameter | No. of Coax |
|-----|-----------|------------------|------------------|-------------|
| 20  | Solid     | BC - Bare Copper | 0.031 in         | 1           |

Conductor Count: 1

##### Insulation

| Material                 | Nominal Diameter |
|--------------------------|------------------|
| PE - Polyethylene (Foam) | 0.198 in         |

##### Outer Shield

| Type  | Layer | Material           | Coverage [%] |
|-------|-------|--------------------|--------------|
| Braid | 1     | Tinned Copper (TC) | 95%          |
| Braid | 2     | Tinned Copper (TC) | 95%          |

##### Outer Jacket

| Material                 | Nominal Diameter |
|--------------------------|------------------|
| PVC - Polyvinyl Chloride | 0.305 in         |

#### Electrical Characteristics

##### Conductor DCR

| Nominal Conductor DCR | Nominal Conductor DCR Conductor Resistance | Nominal Outer Shield DCR | Outer Conductor DCR |
|-----------------------|--|--------------------------|---------------------|
| 9.9 Ohm/1000ft        | 9.9 Ohm/1000ft                             | 1.1 Ohm/1000ft           | 1.1 Ohm/1000ft      |

##### Capacitance

| Nom. Capacitance Conductor to Shield |
|--------------------------------------|
| 21 pF/ft                             |

##### Inductance

| Nominal Inductance |
|--------------------|
| 0.118 $\mu$ H/ft   |

##### Impedance

| Nominal Characteristic Impedance |
|----------------------------------|
| 75 Ohm                           |

##### Return Loss

| Frequency [MHz] | Min. Structural Return Loss (SRL) |
|-----------------|-----------------------------------|
| 5-216 MHz       | 27 dB                             |

217-850 MHz

23 dB

**High Frequency (Nominal/Typical)**

| Frequency [MHz] | Nom. Insertion Loss |
|-----------------|---------------------|
| 1 MHz           | 0.3 dB/100ft        |
| 3.6 MHz         | 0.5 dB/100ft        |
| 10 MHz          | 0.8 dB/100ft        |
| 71.5 MHz        | 2.1 dB/100ft        |
| 135 MHz         | 3 dB/100ft          |
| 270 MHz         | 4.4 dB/100ft        |
| 360 MHz         | 5.1 dB/100ft        |
| 540 MHz         | 6.6 dB/100ft        |
| 720 MHz         | 7.8 dB/100ft        |
| 750 MHz         | 8 dB/100ft          |
| 1000 MHz        | 10.2 dB/100ft       |

**Delay**

| Nominal Delay | Nominal Velocity of Propagation (VP) [%] |
|---------------|--|
| 1.54 ns/ft    | 66%                                      |

**Voltage**

| Non-UL Voltage Rating | UL Voltage Rating | Voltage Rating [V] |
|-----------------------|-------------------|--------------------|
| 300 V RMS             | 300 V RMS         | 30 V RMS           |
|                       | 300 V RMS         |                    |

**Temperature Range**

|                              |                |
|------------------------------|----------------|
| UL Temperature Rating:       | 80°C           |
| Operating Temperature Range: | -40°C To +80°C |

**Mechanical Characteristics**

|                                      |               |
|--------------------------------------|---------------|
| Bulk Cable Weight:                   | 79 lbs/1000ft |
| Maximum Recommended Pulling Tension: | 168 lbs       |
| Minimum Minor Axis Bend Radius:      | 3 in          |
| Min Flexing Radius:                  | 6 in          |

**Standards**

|                          |          |
|--------------------------|----------|
| NEC/(UL) Compliance:     | CMR      |
| CEC/C(UL) Compliance:    | CMG      |
| UL AWM Style Compliance: | AWM 1354 |
| CPR Euroclass:           | Eca      |
| RG Type:                 | 59       |

**Applicable Environmental and Other Programs**

|  |                               |
|--|-------------------------------|
| Environmental Space:                         | Indoor/Outdoor                |
| EU Directive 2000/53/EC (ELV):               | Yes                           |
| EU Directive 2003/11/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                           |
| MII Order #39 (China RoHS):                  | Yes                           |

**Suitability**

|                        |  |
|------------------------|--|
| Suitability - Aerial:  | Yes - Black only, when supported by messenger wire |
| Suitability - Indoor:  | Yes  |
| Suitability - Outdoor: | Yes - Black only                                   |

**Flammability, LS0H, Toxicity Testing**

|                  |                       |
|------------------|-----------------------|
| UL Flammability: | UL1666 Vertical Shaft |
|------------------|-----------------------|

|                    |               |
|--------------------|---------------|
| CSA Flammability:  | FT4           |
| IEC Flammability:  | IEC 60332-1-2 |
| UL voltage rating: | 300 V RMS     |

## Plenum/Non-Plenum

|                |       |
|----------------|-------|
| Plenum (Y/N):  | No    |
| Plenum Number: | 88281 |

## Related Part Numbers

### Variants

| Item #        | Color       | Put-Up Type | Length   | UPC          |
|---------------|-------------|-------------|----------|--------------|
| 8281B 0101000 | Black       | Reel        | 1,000 ft | 612825355489 |
| 8281B 0061000 | Blue, Light | Reel        | 1,000 ft | 612825355762 |
| 8281B 0081000 | Gray        | Reel        | 1,000 ft | 612825355748 |
| 8281B 0051000 | Green, Dark | Reel        | 1,000 ft | 612825355779 |
| 8281B 0021000 | Red         | Reel        | 1,000 ft | 612825355793 |
| 8281B 0071000 | Violet      | Reel        | 1,000 ft | 612825355755 |
| 8281B 0091000 | White       | Reel        | 1,000 ft | 612825355731 |
| 8281B 0041000 | Yellow      | Reel        | 1,000 ft | 612825355786 |

Footnote:

C - CRATE REEL PUT-UP.

## History

Update and Revision:

Revision Number: 0.424 Revision Date: 02-03-2025

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