



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 μ H/ft |

Impedance

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

Return Loss (RL)

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

Mechanical Characteristics

| | |
|------------------------------|---------------|
| Bulk Cable Weight: | 79 lbs/1000ft |
| Max. Pull Tension: | 168 lbs |
| Min. Bend Radius/Minor Axis: | 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, LSOH, 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

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|----------------------|--|
| Update and Revision: | Revision Number: 0.424 Revision Date: 02-03-2025 |
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