



Product: [2177A](#)

5 Serial Digital Coax, RG7, 16 AWG BC, Shielded, CMR

Product Description

Low Loss Serial Digital Coax, 5 Coax, RG-7 Type 16 AWG solid bare copper conductor, gas-injected foamed high-density polyethylene insulation, Duofoil® + tinned copper braid shield (95% coverage) plus Beldfoil® with shorting fold, PVC jacket.

Technical Specifications

Product Overview

| | |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Applications: | SMPTE 2081-1 6 Gb/s UHDTV, SMPTE 424M 3 Gb/s HD-SDI 1080p, SDI/HDTV Digital Video, High Definition (HD), Standard Definition (SDI) |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------|

Physical Characteristics (Overall)

| Conductor | | | | |
|------------------|-----------|------------------|------------------|-------------|
| AWG | Stranding | Material | Nominal Diameter | No. of Coax |
| 16 | Solid | BC - Bare Copper | 0.051 in | 5 |
| Conductor Count: | | | | 1 |

| Insulation | |
|--------------------------|------------------|
| Material | Nominal Diameter |
| PE - Polyethylene (Foam) | 0.225 in |
| Table Notes: | Gas Injected |

Color Chart

| Color |
|--------|
| Green |
| Brown |
| Red |
| Orange |
| Yellow |

| Inner Shield | | | | |
|--------------|-------|-------------------------------|---------------------|--------------|
| Type | Layer | Material | Material Trade Name | Coverage [%] |
| Tape | 1 | Tri-Laminate (Alum+Poly+Alum) | Duofoil® | 100% |
| Braid | 2 | Tinned Copper (TC) | | 95% |
| Tape | 3 | Bi-Laminate (Alum+Poly) | Beldfoil® | 100% |

| Inner Jacket | |
|--------------------------|------------------|
| Material | Nominal Diameter |
| PVC - Polyvinyl Chloride | 0.32 in |

| Outer Jacket | |
|--------------------------|------------------|
| Material | Nominal Diameter |
| PVC - Polyvinyl Chloride | 0.968 in |

Electrical Characteristics

| Conductor DCR | | | | |
|-----------------------|-----------------------|----------------------|--------------------------|---------------------|
| Nominal Conductor DCR | Nominal Conductor DCR | Conductor Resistance | Nominal Outer Shield DCR | Outer Conductor DCR |

| | | | |
|--------------|--------------|----------------|----------------|
| 4 Ohm/1000ft | 4 Ohm/1000ft | 1.9 Ohm/1000ft | 1.9 Ohm/1000ft |
|--------------|--------------|----------------|----------------|

Capacitance

| Nom. Capacitance Conductor to Shield |
|--------------------------------------|
| 16.1 pF/ft |

Inductance

| Nominal Inductance |
|--------------------|
| 0.091 µH/ft |

Impedance

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

Return Loss (RL)

| Frequency [MHz] | Minimum Return (RL) |
|-----------------|---------------------|
| 5-1600 MHz | 23 dB |
| 1600-4500 MHz | 21 dB |
| 4500-6000 MHz | 15 dB |

High Frequency (Nominal/Typical)

| Frequency [MHz] | Nom. Insertion Loss |
|-----------------|---------------------|
| 1 MHz | 0.17 dB/100ft |
| 3.58 MHz | 0.3 dB/100ft |
| 5 MHz | 0.35 dB/100ft |
| 6 MHz | 0.38 dB/100ft |
| 7 MHz | 0.4 dB/100ft |
| 10 MHz | 0.48 dB/100ft |
| 12 MHz | 0.52 dB/100ft |
| 25 MHz | 0.74 dB/100ft |
| 55 MHz | 1.08 dB/100ft |
| 67.5 MHz | 1.2 dB/100ft |
| 71.5 MHz | 1.24 dB/100ft |
| 88.5 MHz | 1.37 dB/100ft |
| 100 MHz | 1.46 dB/100ft |
| 135 MHz | 1.7 dB/100ft |
| 143 MHz | 1.75 dB/100ft |
| 180 MHz | 1.97 dB/100ft |
| 270 MHz | 2.43 dB/100ft |
| 360 MHz | 2.83 dB/100ft |
| 540 MHz | 3.5 dB/100ft |
| 720 MHz | 4.09 dB/100ft |
| 750 MHz | 4.18 dB/100ft |
| 1000 MHz | 4.89 dB/100ft |
| 1500 MHz | 6.1 dB/100ft |
| 2000 MHz | 7.2 dB/100ft |
| 2250 MHz | 7.69 dB/100ft |
| 3000 MHz | 9.08 dB/100ft |
| 4500 MHz | 11.53 dB/100ft |
| 6000 MHz | 13.77 dB/100ft |

Delay

| Nominal Delay | Nominal Velocity of Propagation (VP) [%] |
|---------------|------------------------------------------|
| 1.21 ns/ft | 84% |

High Frequency

| Frequency [MHz] |
|-----------------|
| 1 MHz |
| 3.58 MHz |
| 5 MHz |
| 6 MHz |
| 7 MHz |
| 10 MHz |

| |
|----------|
| 12 MHz |
| 25 MHz |
| 55 MHz |
| 67.5 MHz |
| 71.5 MHz |
| 88.5 MHz |
| 100 MHz |
| 135 MHz |
| 143 MHz |
| 180 MHz |
| 270 MHz |
| 360 MHz |
| 540 MHz |
| 720 MHz |
| 750 MHz |
| 1000 MHz |
| 1500 MHz |
| 2000 MHz |
| 2250 MHz |

Voltage

| |
|-------------------|
| UL Voltage Rating |
| 300 V RMS |

Temperature Range

| | |
|------------------------------|----------------|
| Operating Temperature Range: | -20°C To +60°C |
|------------------------------|----------------|

Mechanical Characteristics

| | |
|------------------------------|----------------|
| Bulk Cable Weight: | 372 lbs/1000ft |
| Max. Pull Tension: | 555 lbs |
| Min. Bend Radius/Minor Axis: | 9.75 in |

Standards

| | |
|-----------------------|-----|
| NEC/(UL) Compliance: | CMR |
| CEC/C(UL) Compliance: | CMG |
| Series Type: | 7 |

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: | Yes |
| EU CE Mark: | Yes |
| MII Order #39 (China RoHS): | Yes |

Suitability

| | |
|------------------------|------------------|
| Suitability - Burial: | No |
| Suitability - Indoor: | Yes |
| Suitability - Outdoor: | Yes - Black only |

Flammability, LS0H, Toxicity Testing

| | |
|--------------------|-----------------------|
| UL Flammability: | UL1666 Vertical Shaft |
| CSA Flammability: | FT4 |
| UL voltage rating: | 300 V RMS |

Plenum/Non-Plenum

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

Related Part Numbers

Variants

| Item # | Color | Put-Up Type | Length |
|----------------|--------------|---------------------|----------|
| 2177A B59N1000 | Black, Matte | Reel w/Small Barrel | 1,000 ft |

Product Notes

| | |
|--------|-------------------------------------------------|
| Notes: | Print legend includes sequential footage marks. |
|--------|-------------------------------------------------|

History

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|----------------------|--------------------------------------------------|
| Update and Revision: | Revision Number: 0.252 Revision Date: 11-09-2022 |
|----------------------|--------------------------------------------------|

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