



**Part Number: 2178A**

Mini Bundled 16 Coax, 23 AWG BC, Shielded, CMR

**Product Description**

Bundled Miniature, 23 AWG solid .023" bare copper conductors, solid copper, gas-injected foam HDPE insulation, Duofoil® + tinned copper braid shield (95% coverage), overall PVC jacket.

**Technical Specifications**

**Product Overview**

Environmental Space:	Indoor/Outdoor
Suitable Applications:	SMPTE 2081-1 6 Gb/s UHD TV, 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
23	Solid	BC - Bare Copper	0.023 in	16

Conductor Count:	16
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**Insulation**

Material	Nominal Diameter
Gas-injected FHDPE - Foam High Density Polyethylene	0.102 in

**Color Chart**

Number	Color
1	Brown #1
2	Red #2
3	Orange #3
4	Green #4
5	Yellow #5
6	Blue #6
7	Violet #7
8	Gray #8
9	White #9
10	Black #10
11	Tan #11
12	Pink #12
13	Gray #13
14	Gray #14
15	Gray #15
16	Gray #16

**Inner Shield Material**

Type	Layer	Material	Material Trade Name	Coverage [%]
Tape	1	Aluminum Foil-Polyester Tape-Aluminum Foil	Duofoil®	100 %
Braid	2	TC - Tinned Copper		95 %

**Inner Jacket Material**

Material	Nominal Diameter
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PVC - Polyvinyl Chloride	0.159 in
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#### Outer Jacket Material

Material	Nominal Diameter
PVC - Polyvinyl Chloride	0.917 in

## Electrical Characteristics

#### Conductor DCR

Nominal Conductor DCR	Nominal Conductor DCR Conductor Resistance	Nominal Inner Shield DCR	Outer Conductor DCR
20.1 Ohm/1000ft	20.1 Ohm/1000ft	7.6 Ohm/1000ft	7.6 Ohm/1000ft

#### Capacitance

Nom. Capacitance Conductor to Shield
16.5 pF/ft

#### Inductance

Nominal Inductance
0.106 $\mu$ H/ft

#### Impedance

Nominal Characteristic Impedance
75 Ohm

#### Return Loss (RL)

Frequency [MHz]	Min. Structural Return Loss (SRL)
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	0.4 dB/100ft
3.6 MHz	0.8 dB/100ft
10 MHz	1.2 dB/100ft
71.5 MHz	3.1 dB/100ft
135 MHz	3.8 dB/100ft
270 MHz	5.4 dB/100ft
360 MHz	6.2 dB/100ft
540 MHz	7.7 dB/100ft
720 MHz	9.1 dB/100ft
750 MHz	9.5 dB/100ft
1000 MHz	10.5 dB/100ft
1500 MHz	13 dB/100ft
2500 MHz	16.9 dB/100ft
3000 MHz	18.5 dB/100ft
4500 MHz	24.6 dB/100ft
6000 MHz	28.97 dB/100ft

#### Delay

Nominal Delay	Nominal Velocity of Propagation (VP) [%]
1.24 ns/ft	83 %

#### Voltage

UL Voltage Rating
300 V RMS

## Temperature Range

Operating Temp Range:	-35°C To +75°C
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## Mechanical Characteristics

Bulk Cable Weight:	388 lbs/1000ft
Max Recommended Pulling Tension:	576 lbs

Min Bend Radius/Minor Axis:	9.25 in
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## Standards

NEC/(UL) Specification:	CMR
CEC/C(UL) Specification:	CMG
RG Type:	Mini 59/U Type

## Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU:	Yes
EU Directive Compliance:	Yes
EU CE Mark:	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes

## Suitability

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

## Flammability, LSOH, Toxicity Testing

UL Flammability:	UL1666 Vertical Shaft
UL voltage rating:	300 V RMS

## Plenum/Non-Plenum

Plenum (Y/N):	No
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## Part Number

### Variants

Item #	Color	Length	Footnote
2178A B59N1000	Black, Matte	1,000 ft	C

Footnote:	C - CRATE REEL PUT-UP.
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## Product Notes

Notes:	Print legend includes sequential footage marks.
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## History

Update and Revision:	Revision Number: 0.125 Revision Date: 08-22-2019
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