Detailed Specifications & Technical Data

METRIC MEASUREMENT VERSION

8281B Coax - Double Braided RG-59/U Type

For more Information please call

1-800-Belden1

General 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.

Physical Characteristics (Overall)

Conductor

AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (mm)
1	20	Solid	BC - Bare Copper	0.7874

Total Number of Conductors:	1

Insulation

Insulation Material:

Insulation Material	Dia. (mm)
FR Semi-Foam PE - Flame Retardant Semi-Foam Polyethylene	5.0292

Outer Shield

Outer Shield Material:

Layer #	Type	Outer Shield Material	Coverage (%)
1	Braid	TC - Tinned Copper	95.000
2	Braid	TC - Tinned Copper	95.000

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cable

Overall Nominal Diameter:	7.747 mm

Mechanical Characteristics (Overall)

Operating Temperature Range:	-40°C To +80°C
UL Temperature Rating:	75°C, 80°C
Bulk Cable Weight:	117.568 Kg/Km
Max. Recommended Pulling Tension:	747.298 N
Min. Bend Radius/Minor Axis:	76.200 mm
Min. Flexing Radius:	15.240 cm

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMR
CEC/C(UL) Specification:	CMG
AWM Specification:	UL Style 1354
EU Directive 2011/65/EU (ROHS II):	Yes
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):	10/13/2005
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

RG Type:	59/U

Flame Test

UL Flame Test:	UL1666 Vertical Shaft
CSA Flame Test:	FT4

Suitability

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

Plenum/Non-Plenum

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

Electrical Characteristics (Overall)

Nom. Characteristic Impedance:

Impedance (Ohm)
75

Nom. Inductance:

Inductance (µH/m)
0.387158

Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)
68.901

Nominal Velocity of Propagation:

VP (%)
66

Nominal Delay:

Delay (ns/m)
5.05274

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
32.4819

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/km)
3.6091

Nom. Attenuation:

Freq. (MHz)	Attenuation (dB/100m)
1	0.9843
3.6	1.6405
10.0	2.6248
71.5	6.8901
135	9.843
270	14.4364
360	16.7331
540	21.6546
720	25.5918
750	26.248
1000	33.4662

Max. Operating Voltage - UL:

Voltage
30 V RMS
300 V RMS

Max. Operating Voltage - Non-UL:

Voltage
300 V RMS

Other Electrical Characteristic 1:	Impedance tested in accordance with ASTM D-4566 paragraph 43.2, option 2 using a 75 Ohm fixed bridge and termination. 75 +/- 1.5 Ohms
Other Electrical Characteristic 2:	Return Loss tested in accordance with ASTM D-4566 paragraph 45.3, Using a 75 Ohm fixed bridge and termination.

Minimum Structural Return Loss:

Start Freq. (MHz)	Stop Freq. (MHz)	Min. SRL (dB)

5	216	27
217	850	23

Sweep Test

Sweep Testing: 100% sweep tested. 5 MHz to 850 MHz.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
8281B 0021000	305 MT	37.648 KG	RED	C	#20 FRSFPE DBLB FRPVC
8281B 0041000	305 MT	37.648 KG	YELLOW	C	#20 FRSFPE DBLB FRPVC
8281B 0051000	305 MT	37.648 KG	GREEN, DARK	C	#20 FRSFPE DBLB FRPVC
8281B 0061000	305 MT	37.648 KG	BLUE, LIGHT	C	#20 FRSFPE DBLB FRPVC
8281B 0071000	305 MT	37.648 KG	VIOLET	C	#20 FRSFPE DBLB FRPVC
8281B 0081000	305 MT	37.648 KG	GRAY	C	#20 FRSFPE DBLB FRPVC
8281B 0091000	305 MT	37.648 KG	WHITE	C	#20 FRSFPE DBLB FRPVC
8281B 0101000	305 MT	37.648 KG	BLACK	C	#20 FRSFPE DBLB FRPVC

Notes:
C = CRATE REEL PUT-UP.

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