



Description:

20 AWG solid .031" bare copper conductor, flame-retardant semi-foam polyethylene insulation, tinned copper/bare copper double braid shield (98% coverage), PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (in.)
1	20	Solid	BC - Bare Copper	.031

Insulation

Insulation Material:

Insulation Material	Dia. (in.)
FR Semi-Foam PE - Flame Retardant Semi-Foam Polyethylene	.198

Outer Shield

Outer Shield Material:

Layer #	Type	Outer Shield Material	Coverage (%)
1	Braid	TC - Tinned Copper	98
2	Braid	TC - Tinned Copper	98

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cabling

Overall Nominal Diameter: 0.305 in.

Mechanical Characteristics (Overall)

Operating Temperature Range: -40°C To +80°C

UL Temperature Rating: 80°C, 75°C

Bulk Cable Weight: 78 lbs/1000 ft.

Max. Recommended Pulling Tension: 168 lbs.

Min. Bend Radius (Install)/Minor Axis: 3 in.

Min. Flexing Radius: 6 in.

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 CE Mark: Yes

EU Directive 2000/53/EC (ELV): Yes

EU Directive 2002/95/EC (RoHS): Yes

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

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/ft)

0.118

Nom. Capacitance Conductor to Shield:

Capacitance (pF/ft)

21

Nominal Velocity of Propagation:

VP (%)

66

Nominal Delay:

Delay (ns/ft)

1.54

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

9.9

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

1.1

Nom. Attenuation:

Freq. (MHz) Attenuation (dB/100 ft.)

1	.3
3.6	.5
10.0	.8
71.5	2.1
135	3.0
270	4.4
360	5.1
540	6.6
720	7.8
750	8.0

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

1000	10.2
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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	1,000 FT	84.000 LB	RED	C	#20 FRSFPE DBLB FRPVC
8281B 0041000	1,000 FT	84.000 LB	YELLOW	C	#20 FRSFPE DBLB FRPVC
8281B 0051000	1,000 FT	84.000 LB	GREEN, DARK	C	#20 FRSFPE DBLB FRPVC
8281B 0061000	1,000 FT	84.000 LB	BLUE, LIGHT	C	#20 FRSFPE DBLB FRPVC
8281B 0071000	1,000 FT	84.000 LB	VIOLET	C	#20 FRSFPE DBLB FRPVC
8281B 0081000	1,000 FT	84.000 LB	GRAY	C	#20 FRSFPE DBLB FRPVC
8281B 0091000	1,000 FT	84.000 LB	WHITE	C	#20 FRSFPE DBLB FRPVC
8281B 0101000	1,000 FT	84.000 LB	BLACK	C	#20 FRSFPE DBLB FRPVC

Notes:

C = CRATE REEL PUT-UP.


Precision Video Cable for Analog and Digital

RG-59/U Type




Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm			pF/Ft.	pF/m	MHz	dB/100 Ft.	dB/100m


20 AWG Solid .031" Bare Copper Conductor • Tinned Copper/Bare Copper Double Braid Shield (98% Coverage) (continued)

Polyethylene Insulation • Clear Polyethylene Jacket																			
Indoor Use 80°C	9141	—	1000	304.8	73.0	33.2	20 AWG (solid) .031"	.200	5.06	TC Double Braid 98% Shield Coverage 1.1Ω/M' 3.6Ω/km	.305	7.75	75	66%	20.0	65.6	1	.3	1.0
																	3.6	.5	1.6
																	10.0	.8	2.6
																	71.5	2.0	6.6
																	135	3.5	11.5
																	270	4.3	14.1
																	360	5.0	16.4
																	540	6.2	20.3
																	720	7.2	23.6
																	750	7.4	24.3
																	1000	9.1	29.8

20 AWG Solid .031" Bare Copper Conductor • Tinned Copper/Bare Copper Double Braid Shield (98% Coverage)


Polyethylene Insulation • Polyethylene Jacket (Available in Red, Yellow, Green, Blue, White, Orange or Black)																			
80°C	8281	—	500 [▲] 1000	152.4 304.8	37.5 74.0	17.8 33.6	20 AWG (solid) .031"	.198	5.03	TC Double Braid 98% Shield Coverage 1.1Ω/M' 3.6Ω/km	.305	7.75	75	66%	21.0	68.9	1	.3	.8
																	3.6	.5	1.8
																	10.0	.8	2.6
																	71.5	2.1	6.9
																	135	3.0	9.8
																	270	4.3	14.1
																	360	5.1	16.6
																	540	6.3	20.7
																	720	7.4	24.3
																	750	7.6	24.9
																	1000	9.2	30.2

[▲]500 ft. put-up not available in White.

Flame-retardant Semi-foam Polyethylene Insulation • PVC Jacket (Available in 9 colors)*																			
UL AWM Style 1354 (30V 80°C)	8281B	NEC: CMR CEC: CMG FT4	1000	304.8	84.0	38.1	20 AWG (solid) .031"	.198	5.03	TC Double Braid 98% Shield Coverage 1.1Ω/M' 3.6Ω/km	.305	7.75	75	66%	21.0	68.9	1	.3	.8
																	3.6	.5	1.8
																	10.0	.8	2.6
																	71.5	2.1	6.9
																	135	3.0	9.8
																	270	4.4	14.4
																	360	5.1	16.6
																	540	6.6	21.5
																	720	7.8	25.4
																	750	8.0	26.2
																	1000	10.2	33.5


*8281B available in Red, Orange, Yellow, Green, Blue, Purple, Gray, White or Black.

22 AWG Stranded (7x29) .031" Bare Compacted Copper Conductor* • Tinned Copper/Bare Copper Double Braid Shield (98% Coverage)

Polyethylene Insulation • PVC Jacket (Matte Red, Blue, Green, Gray or Black)																			
High-Flex 60°C	8281F	—	500 [▲] 1000	152.4 304.8	34.5 67.0	15.7 30.4	22 AWG (7x29) .031"	.193	4.90	TC Double Braid 98% Shield Coverage 1.7Ω/M' 5.6Ω/km	.305	7.75	75	66%	21.0	68.9	1	.3	.9
																	3.6	.5	1.7
																	10.0	.9	2.9
																	71.5	2.5	8.0
																	135	3.6	11.6
																	270	5.1	16.7
																	360	6.0	19.7
																	540	7.4	24.3
																	720	8.7	28.5
																	750	8.9	29.2
																	1000	10.5	34.4

[▲]500 ft. put-up available in Black only.

20 AWG Solid .032" Bare Copper Conductor • Tinned Copper/Bare Copper Double Braid Shield (98% Coverage)

Plenum • FEP Insulation • Black Fluorocopolymer Jacket																			
150°C	88281	NEC: CMP CEC: CMP FT6	500 1000	152.4 304.8	44.5 86.0	20.2 39.1	20 AWG (solid) .032"	.185	4.70	TC Double Braid 98% Shield Coverage 1.1Ω/M' 3.6Ω/km	.271	6.88	75	71%	19.0	62.4	1	.2	.7
																	3.6	.5	1.6
																	10.0	.8	2.6
																	71.5	2.3	7.5
																	135	3.3	10.8
																	270	5.1	16.7
																	360	6.1	20.0
																	540	8.0	26.2
																	720	9.7	31.8
																	750	10.0	32.8
																	1000	12.3	40.3

Suitable for Outdoor and Direct Burial applications.

BC = Bare Copper • BCC = Bare Compacted Copper • DCR = DC Resistance • FEP = Fluorinated Ethylene Propylene • HDPE = High-density Polyethylene • TC = Tinned Copper

*Compacted conductor combines impedance uniformity of solid conductors and "nick-resistance" of stranded conductor.