



Description:

20 AWG solid .031" bare copper conductor, polyethylene insulation, tinned copper/bare copper double braid shield (98% coverage), polyethylene 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.)
PE - 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
PE - Polyethylene

Overall Cabling

Overall Nominal Diameter: 0.305 in.

Mechanical Characteristics (Overall)

Operating Temperature Range: -55°C To +80°C

Non-UL Temperature Rating: 80°C

Bulk Cable Weight: 68 lbs/1000 ft.

Max. Recommended Pulling Tension: 116 lbs.

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

Min. Flexing Radius: 6 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

EU CE Mark: No

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

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

EU RoHS Compliance Date (mm/dd/yyyy): 01/01/2004

EU Directive 2002/96/EC (WEEE): Yes

EU Directive 2003/11/EC (BFR): Yes

8281 Coax - Double Braided RG-59/U Type

CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
RG Type:	59/U

Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes
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)
0.131

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	4.3
360	5.1
540	6.3
720	7.4
750	7.6
1000	9.2

Max. Operating Voltage - Non-UL:

Voltage
2900 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

8281 Coax - Double Braided RG-59/U Type

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 5MHz to 850MHz.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
8281 0021000	1,000 FT	74.000 LB	RED	C	75 OHM VIDEO COAX
8281 002500	500 FT	37.500 LB	RED	C	75 OHM VIDEO COAX
8281 0031000	1,000 FT	74.000 LB	ORANGE	C	75 OHM VIDEO COAX
8281 0041000	1,000 FT	74.000 LB	YELLOW	C	75 OHM VIDEO COAX
8281 004500	500 FT	37.500 LB	YELLOW		75 OHM VIDEO COAX
8281 0051000	1,000 FT	74.000 LB	GREEN, DARK	C	75 OHM VIDEO COAX
8281 005500	500 FT	37.500 LB	GREEN, DARK	C	75 OHM VIDEO COAX
8281 0061000	1,000 FT	74.000 LB	BLUE, LIGHT	C	75 OHM VIDEO COAX
8281 006500	500 FT	37.500 LB	BLUE, LIGHT		75 OHM VIDEO COAX
8281 0091000	1,000 FT	74.000 LB	WHITE	C	75 OHM VIDEO COAX
8281 0101000	1,000 FT	74.000 LB	BLACK	C	75 OHM VIDEO COAX
8281 010500	500 FT	37.500 LB	BLACK	C	75 OHM VIDEO COAX

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 BC 9.9Ω/M' 32.5Ω/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 BC 9.9Ω/M' 32.5Ω/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 BC 9.9Ω/M' 32.5Ω/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 BCC 12.2Ω/M' 40.0Ω/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 BC 9.9Ω/M' 32.5Ω/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.