FLEX TEST™

Test Cable

CBL-20FT-SMSM+

50Ω 20FT DC to 18 GHz SMA Male

FEATURES

- Wideband Coverage, DC to 18 GHz
- Extra Rugged Construction with Strain Relief for Longer Life
- Stainless Steel SMA Connectors for Long Mating-cycle Life
- Useful Over Temperature Range, -55 °C to +105 °C
- Triple Shield Cable for Excellent Shielding Effectiveness
- Flexible for Easy Connection & Bend Radius
- Superior Stability of Insertion Loss, VSWR & Phase vs. Flexing
- 6 Month guarantee*



Generic photo used for illustration purposes only

Model No.	CBL-20FT-SMSM+
Case Style	GM1006-20
Connectors	SMA Male

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- High Volume Production Test Stations
- Research & Development Labs
- Environmental & Temperature Test Chambers
- Replacement for OEM Test Port Cables
- Field RF Testing
- Cellular Infrastructure Site Testing

ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length[1]			20		FT
Insertion Loss	DC - 2.5	—	3.9	4.3	dB
	2.5 - 6	—	6.7	7.2	
	6 - 12	—	9.7	11.0	
	12 - 18	—	12.5	14.25	
Return Loss	DC - 2.5	23	30	—	dB
	2.5 - 6	20	30	—	
	6 - 12	17	27	—	
	12 - 18	17	22	—	

1. Custom sizes available, consult factory.

ABSOLUTE MAXIMUM RATINGS[2]

Parameter	Ratings
Operating Temperature	-55 °C to +105 °C
Storage Temperature	-55 °C to +105 °C
Shielding Effectiveness	>100 dB
Power Handling at 25 °C	891 W Max. at 0.4 GHz 539 W Max. at 1 GHz 363 W Max. at 2 GHz 180 W Max. at 6 GHz 117 W Max. at 12 GHz 88 W Max. at 18 GHz

2. Permanent damage may occur if any of these limits are exceeded.

Product Guarantee*
Mini-Circuits® will repair or replace your test cable at its option if the connector attachment fails within six months of shipment. This guarantee excludes cable or connector interface damage from misuse or abuse.

REV. B
ECO-019380
CBL-20FT-SMSM+
MCL NY
260519

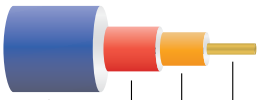
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CABLE CONSTRUCTION



Inner Conductor: Solid Silver Plated Copper Clad Steel

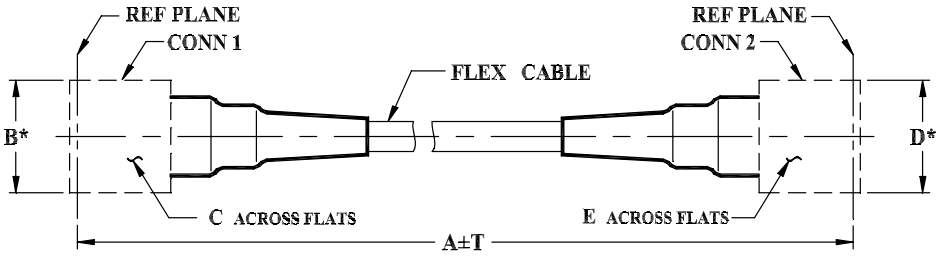
Dielectric: Solid PTFE

Shield: Silver-Plated Copper Flat Ribbon Braid
Aluminum-Polymide Tape Interlayer 36 GA
Silver-Plated Copper Braid (90%k)

Jacket: Blue FEP

Connectors:
- Passivated stainless steel
- Captive contact
- Thick wall interface
- Gold plated beryllium copper center contacts
- PTFE dielectric

OUTLINE DRAWING



*OVERALL CONNECTOR OR CABLE & BOOT DIMENSION
(CONNECTOR SHAPE MAY VARY)

OUTLINE DIMENSIONS (Inch / mm)

A		B	C	D	E	T		wt
Feet	Meters	0.42	0.312	0.42	0.312	Feet	Meters	grams
20	6.10	10.67	7.92	10.67	7.92	0.6	0.18	418

FLEX TEST™

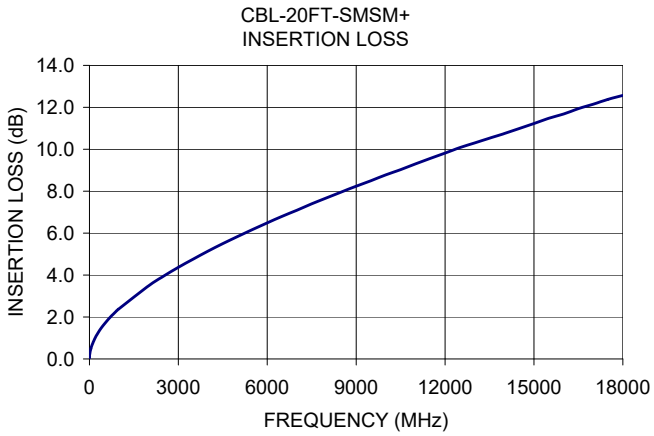
Test Cable

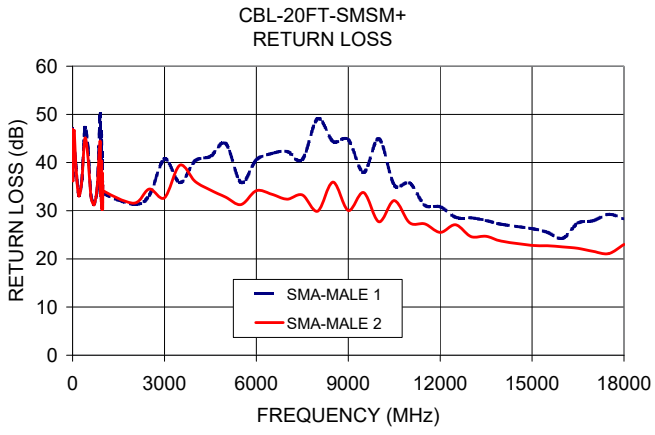
CBL-20FT-SMSM+

50Ω 20FT DC to 18 GHz SMA Male

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		SMA Male	SMA Male
0.3	0.05	47.0	47.0
1000.0	2.40	33.7	34.1
2000.0	3.49	31.3	31.6
3000.0	4.37	40.7	32.7
4000.0	5.14	40.3	36.1
5000.0	5.84	44.0	32.8
6000.0	6.49	40.6	34.2
7000.0	7.09	42.3	32.4
8000.0	7.68	49.1	29.9
9000.0	8.24	44.7	30.0
10000.0	8.78	44.9	27.7
12000.0	9.82	30.8	25.5
14000.0	10.75	27.2	23.7
16000.0	11.68	24.3	22.5
18000.0	12.57	28.3	23.0





NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

Test Cable, SMA-Male/SMA-Male CBL-20FT-SMSM+

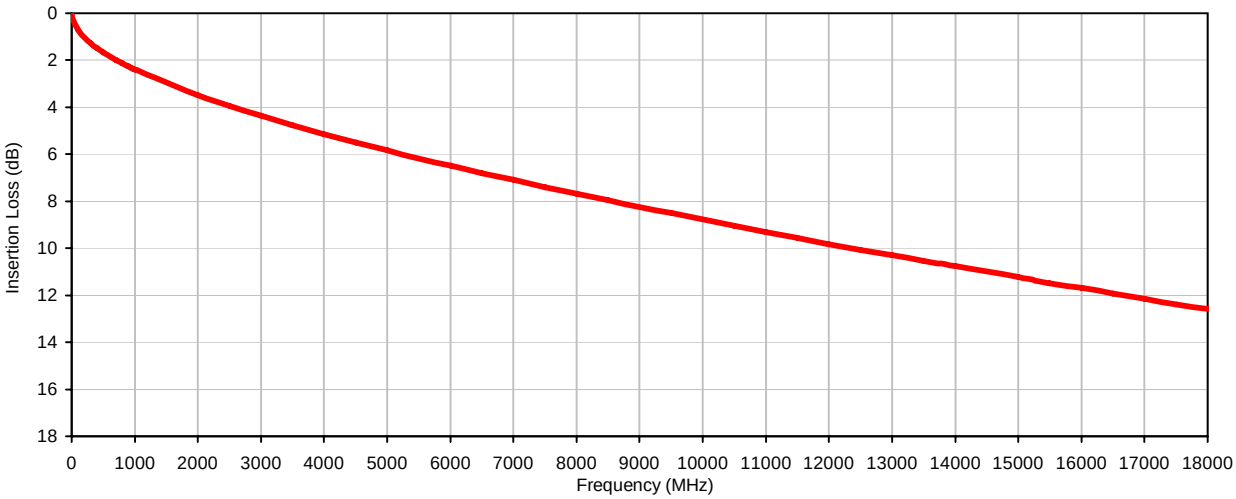
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	SMA MALE 1 RETURN LOSS (dB)	SMA MALE 2 RETURN LOSS (dB)
0.3	0.05	47.0	47.0
1.0	0.07	43.6	43.4
10.0	0.22	36.8	36.3
100.0	0.71	40.1	39.9
200.0	1.03	33.2	33.1
300.0	1.27	36.2	36.2
400.0	1.48	47.1	45.0
500.0	1.66	43.3	41.2
600.0	1.83	33.1	32.9
700.0	1.99	31.4	31.2
800.0	2.13	34.3	34.8
900.0	2.27	50.1	44.5
950.0	2.34	46.3	40.3
1000.0	2.40	33.7	34.1
2000.0	3.49	31.3	31.6
2500.0	3.95	33.2	34.5
3000.0	4.37	40.7	32.7
3500.0	4.76	35.8	39.4
4000.0	5.14	40.3	36.1
4500.0	5.50	41.3	34.3
5000.0	5.84	44.0	32.8
5500.0	6.17	35.8	31.3
6000.0	6.49	40.6	34.2
6500.0	6.80	41.9	33.4
7000.0	7.09	42.3	32.4
7500.0	7.40	40.6	33.3
8000.0	7.68	49.1	29.9
8500.0	7.96	44.4	35.9
9000.0	8.24	44.7	30.0
9500.0	8.50	38.0	33.8
10000.0	8.78	44.9	27.7
10500.0	9.03	35.3	32.1
11000.0	9.30	35.8	27.5
11500.0	9.56	31.1	27.3
12000.0	9.82	30.8	25.5
12500.0	10.08	28.7	27.1
13000.0	10.30	28.5	24.6
13500.0	10.53	28.0	24.7
14000.0	10.75	27.2	23.7
15000.0	11.23	26.3	22.8
15500.0	11.48	25.5	22.7
16000.0	11.68	24.3	22.5
16500.0	11.94	27.4	22.2
17000.0	12.15	27.9	21.6
17500.0	12.38	29.3	21.1
18000.0	12.57	28.3	23.0

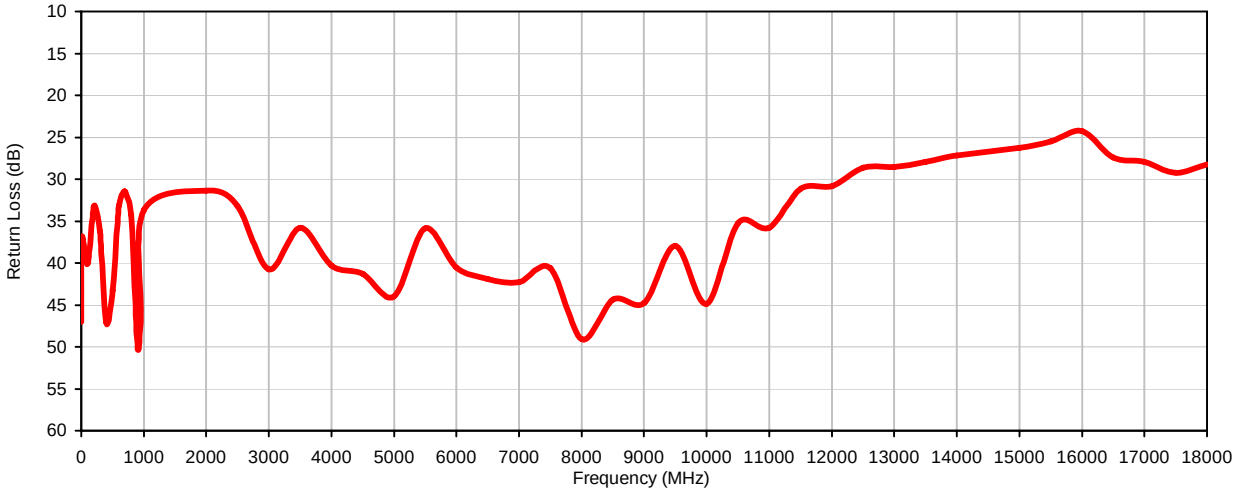
Test Cable, SMA-Male/SMA-Male CBL-20FT-SMSM+

Typical Performance Curves

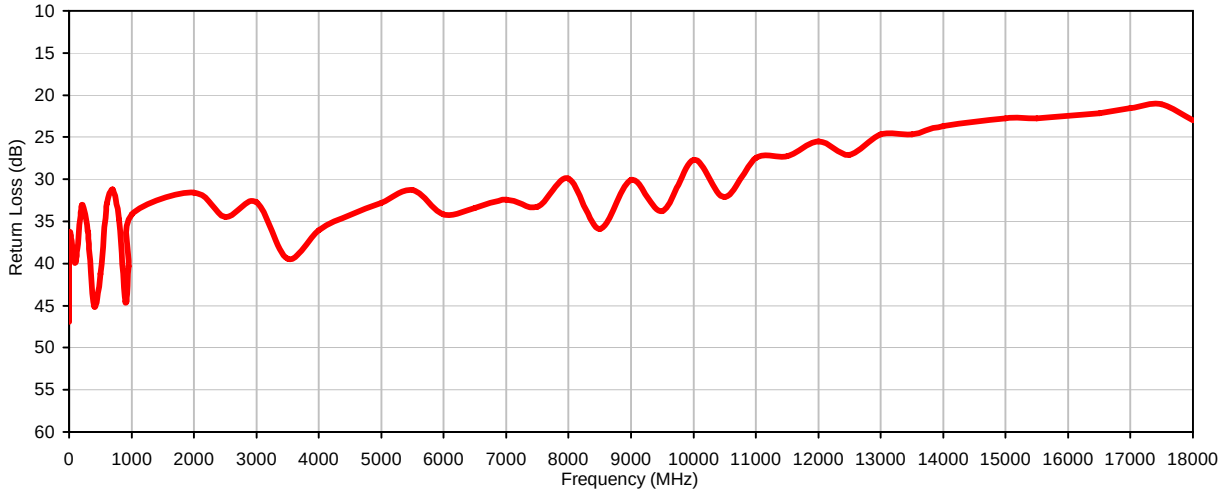
Insertion Loss



SMA-Male 1 Return Loss



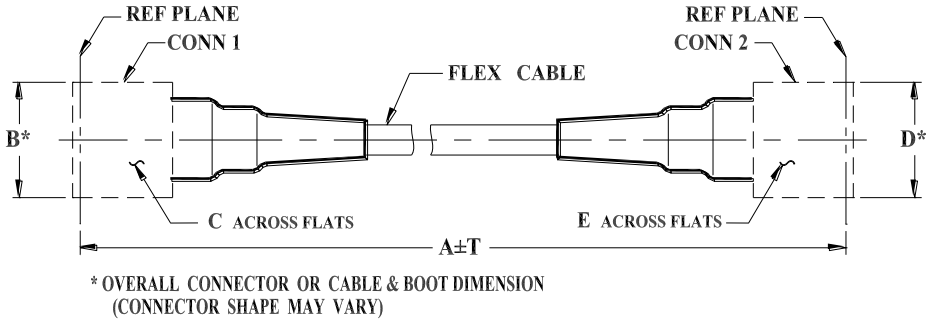
SMA-Male 2 Return Loss



Case Style GM

GM1006

Outline Dimensions



GM1006 SERIES
SMA MALE (CONN-1)
SMA MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					FEET	METERS	
GM1006-1	1.00	.30	0.42 (10.67)	0.312 (7.92)	0.42 (10.67)	0.312 (7.92)	.06	.02	48
GM1006-1.5	1.50	.46					.06	.02	58
GM1006-1.64	1.64	.50					.06	.02	60
GM1006-2	2.00	.61					.06	.02	67
GM1006-3	3.00	.91					.09	.03	87
GM1006-3.28	3.28	1.00					.10	.03	92
GM1006-3.5	3.50	1.07					.11	.03	97
GM1006-4	4.00	1.22					.12	.04	106
GM1006-4.92	4.92	1.50					.15	.05	124
GM1006-5	5.00	1.52					.15	.05	126
GM1006-6	6.00	1.83					.18	.05	145
GM1006-6.56	6.56	2.00					.20	.06	156
GM1006-7	7.00	2.13					.21	.06	165
GM1006-7.5	7.50	2.29					.23	.07	175
GM1006-8	8.00	2.44					.24	.07	184
GM1006-8.2	8.20	2.50					.25	.08	188
GM1006-9	9.00	2.74					.27	.08	204
GM1006-9.84	9.84	3.00					.30	.09	220
GM1006-10	10.00	3.05					.30	.09	223
GM1006-11	11.00	3.35					.33	.10	243
GM1006-12	12.00	3.66					.36	.11	262

Unless otherwise specified dimensions are in inches (mm).
Tolerances: 2Pl. ± .03; 3Pl. ± .015

Note:

1. Flexible Coaxial Cable.

Mini-Circuits®
INTERNET http://www.minicircuits.com
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
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Case Style GM

GM1006 SERIES
SMA MALE (CONN-1)
SMA MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					FEET	METERS	
GM1006-14	14.00	4.27	0.42 (10.67)	0.312 (7.92)	0.42 (10.67)	0.312 (7.92)	.42	.13	301
GM1006-15	15.00	4.57					.45	.14	321
GM1006-16	16.00	4.88					.48	.15	340
GM1006-16.4	16.40	5.00					.49	.15	348
GM1006-17	17.00	5.18					.51	.16	360
GM1006-20	20.00	6.10					.60	.18	418
GM1006-23	23.00	7.01					.69	.21	477
GM1006-24	24.00	7.32					.72	.22	496
GM1006-25	25.00	7.62					.75	.23	516
GM1006-26	26.00	7.92					.78	.24	535
GM1006-27	27.00	8.23					.81	.25	555
GM1006-30	30.00	9.14					.90	.27	613
GM1006-32	32.00	9.75					.96	.29	652
GM1006-32.8	32.80	10.00					.98	.30	668
GM1006-35	35.00	10.67					1.05	.32	711
GM1006-37	37.00	11.28					1.11	.34	750
GM1006-39	39.00	11.89					1.17	.36	789
GM1006-40	40.00	12.19					1.20	.37	808
GM1006-50	50.00	15.24					1.50	.46	1003

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Environmental Specifications ENV34

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 105°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except -105°C
Mechanical Flexing	20,000 cycles During each cycle, cable flexed from 90° through 0° to -90° and back with a Radii of 3 inches	- - -

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