

Test Cable

50Ω 1M DC to 18 GHz

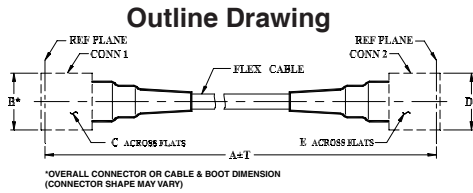
CBL-1M-NMNM+



Maximum Ratings

Operating Temperature	-55°C to 105°C
Storage Temperature	-55°C to 105°C
Permanent damage may occur if any of these limits are exceeded.	

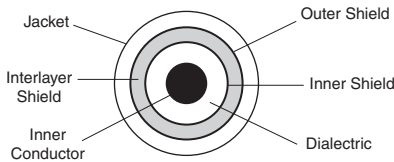
Shielding Effectiveness	>100 dB
Power Handling at 25°C	891W Max. at 0.4 GHz
	539W Max. at 1 GHz
	363W Max. at 2 GHz
	180W Max. at 6 GHz
	117W Max. at 12 GHz
	88W Max. at 18 GHz
Jacket	Blue FEP



Outline Dimensions (inch/mm)

A		B		C		D		E		T		wt	
Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters	grams	
3.28	1.00	22.35	19.05	22.35	19.05	0.1	0.03					161	

Cable Cross Section



Cable Construction	
Inner Conductor	Solid Silver Plated Copper Clad Steel
Dielectric	Solid PTFE
Shield	Silver-Plated Copper Flat Ribbon Braid Aluminum-Polyimide Tape Interlayer 36 GA Silver-Plated Copper Braid (90%k)
Jacket	Blue FEP
Connectors	
<ul style="list-style-type: none"> passivated stainless steel captive contact thick wall interface (SMA) gold plated beryllium copper center contacts PTFE dielectric 	

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.

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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/WCLStore/terms.jsp

Features

- RoHS compliant
- wideband coverage, DC to 18 GHz
- extra rugged construction with strain relief for longer life
- stainless steel N-Male 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*

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

CASE STYLE: GM1106-3.28

Connectors	Model
Conn1 N-MALE	Conn2 N-MALE
CBL-1M-NMNM+	

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

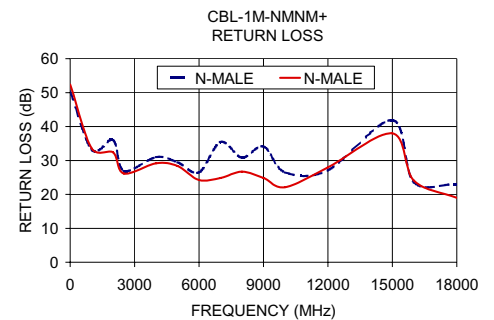
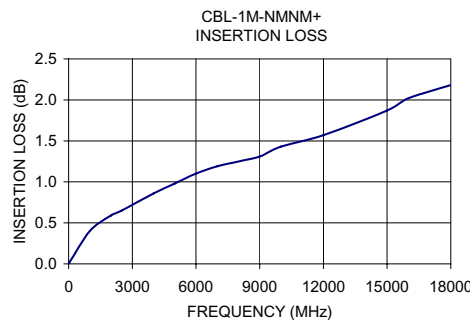
Electrical Specifications at 25°C

FREQ. (GHz)	LENGTH (M)	INSERTION LOSS (dB)				RETURN LOSS (dB)											
		DC-2.5 GHz	2.5-6 GHz	6-12 GHz	12-18 GHz	DC-2.5 GHz	2.5-6 GHz	6-12 GHz	12-18 GHz								
$f_L - f_U$		Typ. Max.	Typ. Max.	Typ. Max.	Typ. Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.								
DC-18	1.0	0.7	0.8	1.1	1.4	1.6	2.1	2.3	2.7	30	23	30	20	27	17	22	17

Custom sizes available, consult factory.

Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		N-MALE	N-MALE
0.30	0.00	50.34	52.38
1000.00	0.40	33.19	33.53
2000.00	0.59	35.99	32.39
2500.00	0.65	26.88	26.13
4000.00	0.86	31.00	29.19
5000.00	0.98	29.47	28.34
6000.00	1.10	26.51	24.21
7000.00	1.19	35.46	24.84
8000.00	1.25	30.81	26.70
9000.00	1.31	34.09	24.84
10000.00	1.43	26.50	22.13
12000.00	1.57	27.10	27.94
15000.00	1.87	41.88	38.00
16000.00	2.02	23.59	24.09
18000.00	2.18	23.03	18.98



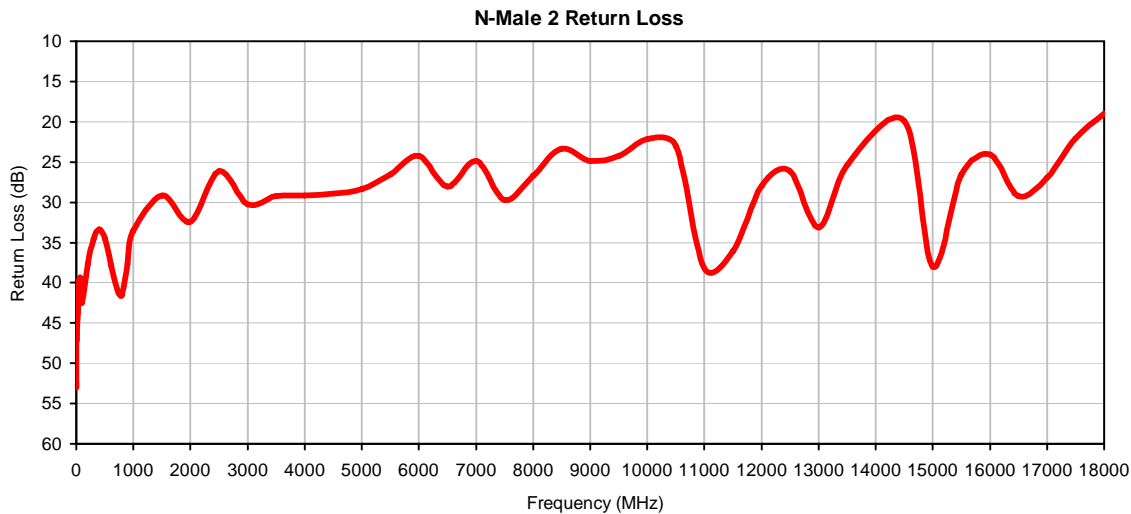
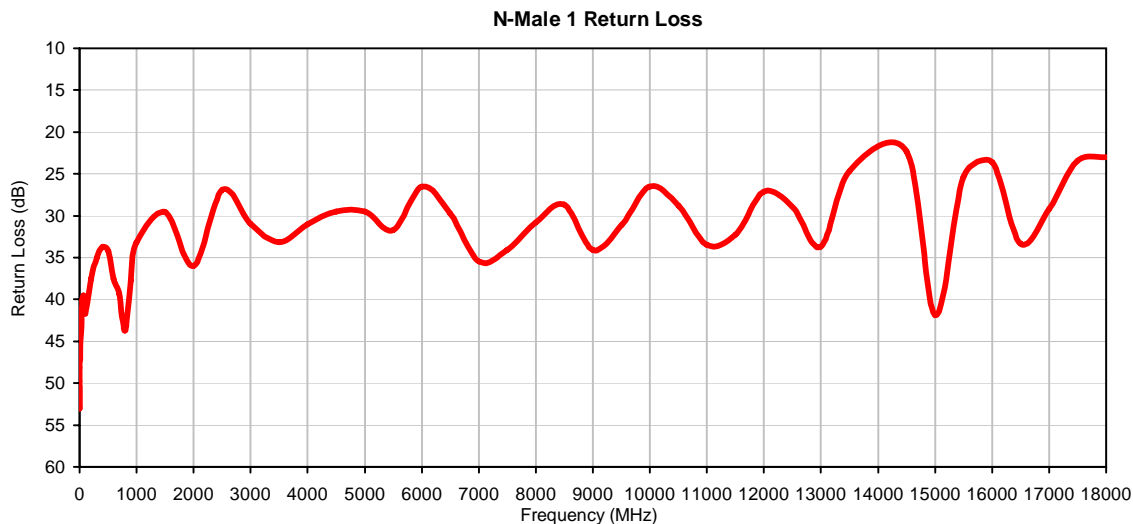
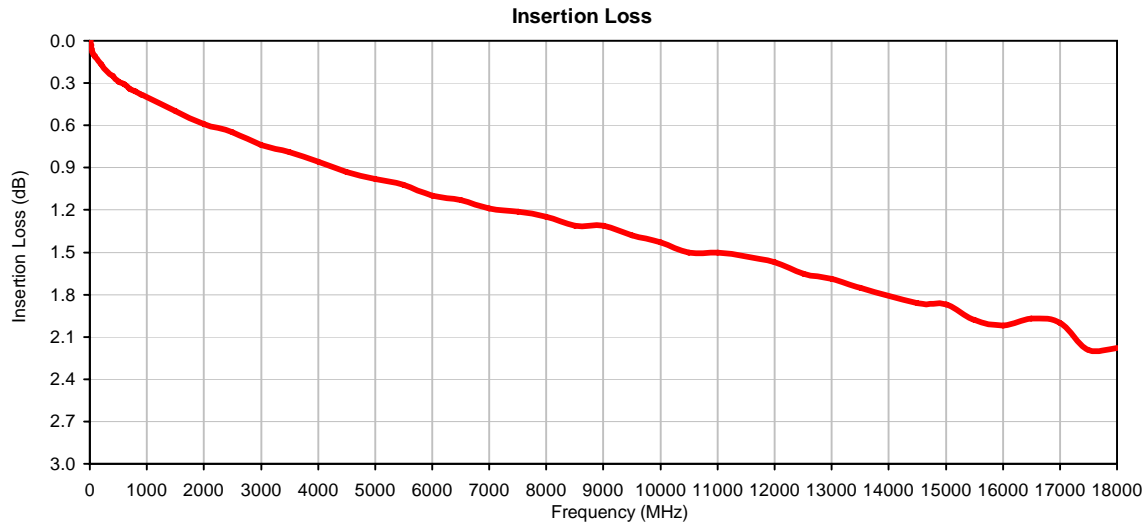
Test Cable, N-Male/N-Male

CBL-1M-NMNM+

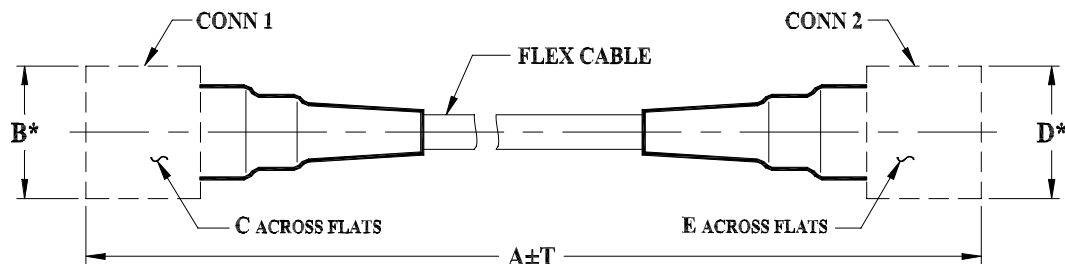
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	N-MALE 1 RETURN LOSS (dB)	N-MALE 2 RETURN LOSS (dB)
0.3	0.00	50.34	52.38
0.7	0.00	53.08	53.01
1.0	0.01	52.99	52.73
3.0	0.02	49.77	49.65
5.0	0.02	48.12	48.06
7.0	0.03	47.16	47.08
9.0	0.03	46.39	46.45
10.0	0.04	45.83	46.21
30.0	0.06	42.45	42.26
50.0	0.08	40.23	39.86
70.0	0.10	39.50	39.30
90.0	0.11	40.42	40.81
100.0	0.12	41.66	42.46
200.0	0.17	37.52	37.70
300.0	0.22	34.98	34.55
400.0	0.25	33.72	33.36
500.0	0.29	34.25	34.57
600.0	0.31	37.56	37.73
700.0	0.34	39.36	40.32
800.0	0.36	43.74	41.52
900.0	0.38	37.75	37.65
1000.0	0.40	33.19	33.53
1500.0	0.50	29.59	29.16
2000.0	0.59	35.99	32.39
2500.0	0.65	26.88	26.13
3000.0	0.74	30.92	30.24
3500.0	0.79	33.18	29.22
4000.0	0.86	31.00	29.19
4500.0	0.93	29.48	28.89
5000.0	0.98	29.47	28.34
5500.0	1.02	31.72	26.57
6000.0	1.10	26.51	24.21
6500.0	1.13	29.72	28.08
7000.0	1.19	35.46	24.84
7500.0	1.21	34.07	29.70
8000.0	1.25	30.81	26.70
8500.0	1.31	28.68	23.35
9000.0	1.31	34.09	24.84
9500.0	1.38	31.10	24.20
10000.0	1.43	26.50	22.13
10500.0	1.50	28.79	23.00
11000.0	1.50	33.50	38.15
11500.0	1.53	32.28	36.06
12000.0	1.57	27.10	27.94
12500.0	1.65	28.98	26.14
13000.0	1.69	33.68	33.15
13500.0	1.75	24.65	25.37
14500.0	1.86	22.33	19.97
15000.0	1.87	41.88	38.00
15500.0	1.98	25.35	26.50
16000.0	2.02	23.59	24.09
16500.0	1.97	33.29	29.25
17000.0	2.00	29.22	26.96
17500.0	2.19	23.48	22.09
18000.0	2.18	23.03	18.98

Typical Performance Curves



Outline Dimensions



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

GM1106 SERIES

N MALE (CONN-1)

N MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					FEET	METERS	
GM1106-1	1	.30	.88 (22.35)	.812 (20.62)	.88 (22.35)	.812 (20.62)	.06	.02	117
GM1106-1.5	1.5	.46					.06	.02	127
GM1106-1.64	1.64	.50					.06	.02	129
GM1106-2	2	.61					.06	.02	137
GM1106-3	3	.91					.09	.03	156
GM1106-3.3	3.3	1.01					.10	.03	162
GM1106-4	4	1.22					.12	.04	176
GM1106-4.92	4.92	1.50					.15	.05	193
GM1106-5	5	1.52					.15	.05	195
GM1106-6	6	1.83					.18	.05	215
GM1106-6.56	6.56	2.00					.20	.06	225
GM1106-7.5	7.5	2.29					.23	.07	244
GM1106-9	9	2.74					.27	.08	273
GM1106-9.84	9.84	3.00					.30	.09	289
GM1106-10	10	3.05					.30	.09	293
GM1106-12	12	3.66					.36	.11	332
GM1106-13.12	13.12	4.00					.39	.12	353
GM1106-15	15	4.57					.45	.14	390
GM1106-20	20	6.10					.60	.18	488
GM1106-25	25	7.62					.75	.23	585
GM1106-30	30	9.14	.90	.27	683				
GM1106-50	50	15.24	1.50	.46	1073				

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. ± .03; 3Pl. ± .015

Note:

1. Flexible Coaxial Cable.



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	- - -