



Test Cable

CBL-0.5M-SMNM+

Mini-Circuits

50Ω 0.5M DC to 18 GHz SMA-Male to N-Male

FEATURES

- Wideband coverage, DC to 18 GHz
- Extra rugged construction with strain relief for longer life
- Stainless steel 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-0.5M-SMNM+ |
| Case Style | GM1005-1.64 |
| Connectors | SMA-Male to N-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 | | | 0.5 | | M |
| Insertion Loss | DC - 2.5 | — | 0.4 | 0.5 | dB |
| | 2.5 - 6 | — | 0.6 | 0.8 | |
| | 6 - 12 | — | 0.9 | 1.2 | |
| | 12 - 18 | — | 1.2 | 1.5 | |
| Return Loss | DC - 2.5 | 23 | 30 | — | dB |
| | 2.5 - 6 | 20 | 30 | — | |
| | 6 - 12 | 17 | 27 | — | |
| | 12 - 18 | 17 | 27 | — | |

1. Custom sizes available, consult factory.

ABSOLUTE MAXIMUM RATINGS

| 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 | 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 |

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.





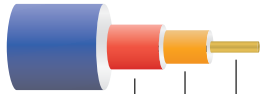
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CABLE CONSTRUCTION

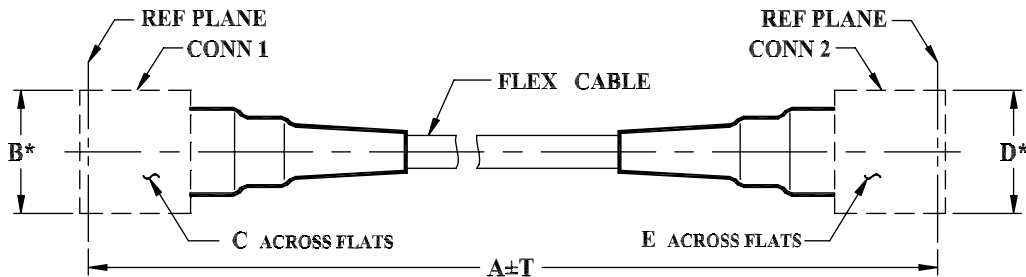


- Inner Conductor: Solid Silver Plated Copper Clad Steel
- Dielectric: Solid PTFE
- Shield: Silver-Plated Copper Flat Ribbon Braid
Aluminum-Polyimide Tape Interlayer 36 GA
Silver-Plated Copper Braid (90%k)
- Jacket: Blue FEP

Connectors:

- Passivated stainless steel
- Captive contact
- Thick wall interface (SMA)
- 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 | | | | | Feet | Meters | grams |
| 1.64 | 0.50 | 0.42 | 0.312 | 0.88 | .750 | 0.06 | 0.02 | 88 |
| | | 10.67 | 7.92 | 22.35 | 19.05 | | | |





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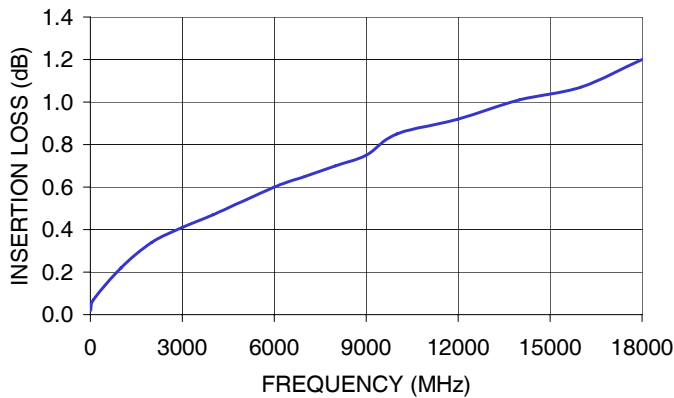
Mini-Circuits

50Ω 0.5M DC to 18 GHz SMA-Male to N-Male

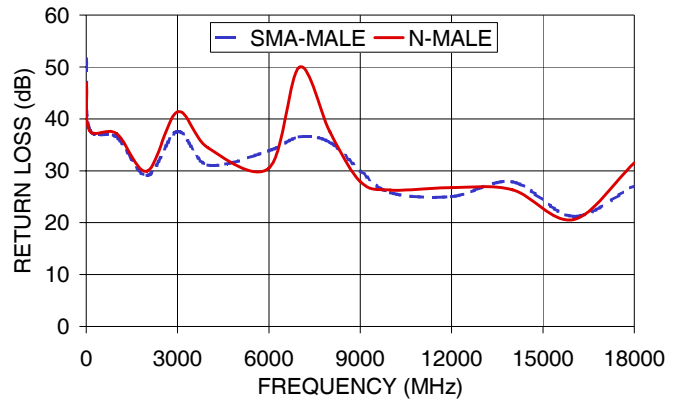
TYPICAL PERFORMANCE DATA

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | |
|-----------------|---------------------|------------------|--------|
| | | SMA-Male | N-Male |
| 10.00 | 0.02 | 51.54 | 46.90 |
| 100.00 | 0.07 | 38.11 | 37.78 |
| 1000.00 | 0.22 | 36.46 | 37.16 |
| 2000.00 | 0.34 | 29.10 | 29.94 |
| 3000.00 | 0.41 | 37.54 | 41.32 |
| 4000.00 | 0.47 | 31.10 | 34.43 |
| 6000.00 | 0.60 | 33.84 | 30.54 |
| 7000.00 | 0.65 | 36.51 | 49.94 |
| 8000.00 | 0.70 | 35.48 | 37.51 |
| 9000.00 | 0.75 | 29.98 | 27.90 |
| 10000.00 | 0.85 | 25.79 | 26.26 |
| 12000.00 | 0.92 | 25.04 | 26.73 |
| 14000.00 | 1.01 | 27.87 | 26.34 |
| 16000.00 | 1.07 | 21.21 | 20.58 |

CBL-0.5M-SMNM+
INSERTION LOSS



CBL-0.5M-SMNM+
RETURN LOSS



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-Circuit's 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/MCLStore/terms.jsp



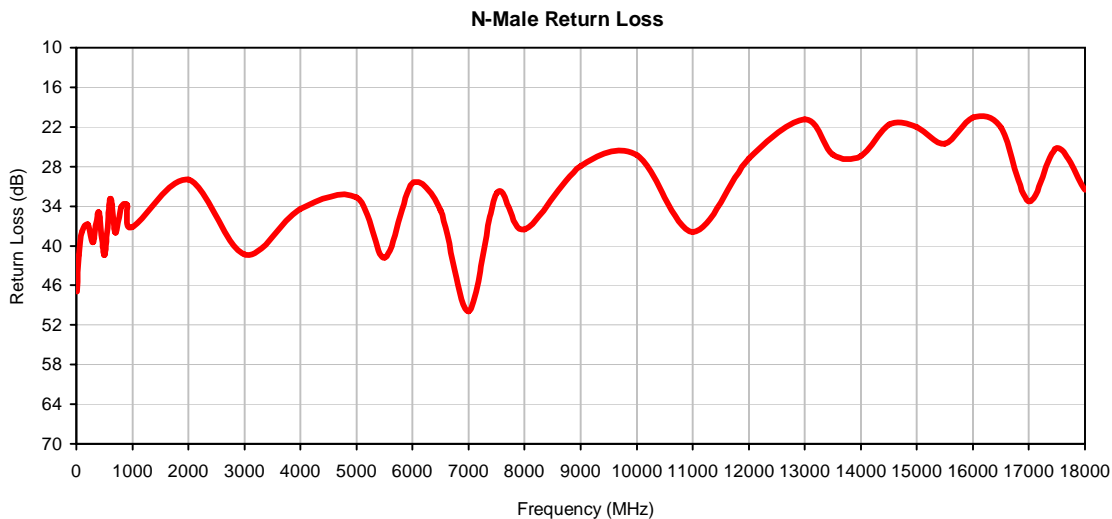
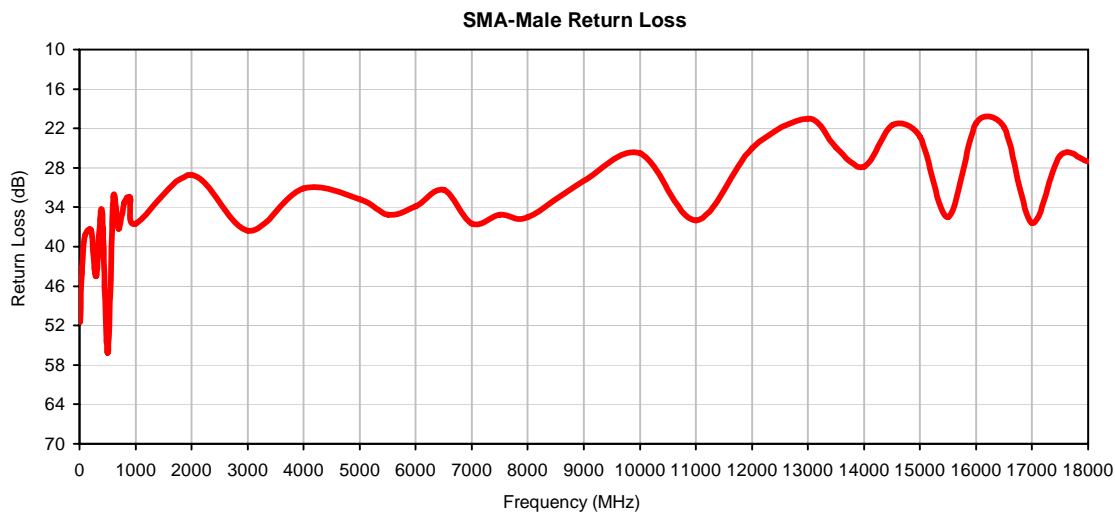
Test Cable, SMA-Male/N-Male

CBL-0.5M-SMNM+

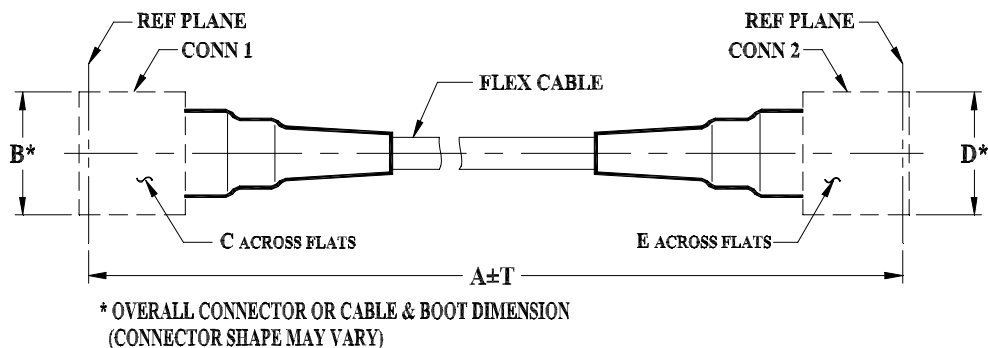
Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | SMA-MALE RETURN LOSS (dB) | N-MALE RETURN LOSS (dB) |
|--------------------|---------------------------|---------------------------------|-------------------------------|
| 10.0 | 0.02 | 51.54 | 46.90 |
| 50.0 | 0.04 | 43.07 | 41.42 |
| 100.0 | 0.07 | 38.11 | 37.78 |
| 200.0 | 0.09 | 37.50 | 36.75 |
| 300.0 | 0.12 | 44.44 | 39.50 |
| 400.0 | 0.14 | 34.46 | 34.89 |
| 500.0 | 0.15 | 56.16 | 41.38 |
| 600.0 | 0.17 | 32.47 | 32.92 |
| 700.0 | 0.17 | 37.23 | 38.05 |
| 800.0 | 0.19 | 33.30 | 34.14 |
| 900.0 | 0.20 | 32.54 | 33.70 |
| 1000.0 | 0.22 | 36.46 | 37.16 |
| 2000.0 | 0.34 | 29.10 | 29.94 |
| 3000.0 | 0.41 | 37.54 | 41.32 |
| 4000.0 | 0.47 | 31.10 | 34.43 |
| 5000.0 | 0.53 | 32.82 | 32.68 |
| 5500.0 | 0.56 | 35.12 | 41.80 |
| 6000.0 | 0.60 | 33.84 | 30.54 |
| 6500.0 | 0.62 | 31.36 | 34.60 |
| 7000.0 | 0.65 | 36.51 | 49.94 |
| 7500.0 | 0.68 | 35.12 | 32.01 |
| 8000.0 | 0.70 | 35.48 | 37.51 |
| 9000.0 | 0.75 | 29.98 | 27.90 |
| 10000.0 | 0.85 | 25.79 | 26.26 |
| 11000.0 | 0.87 | 35.96 | 37.91 |
| 12000.0 | 0.92 | 25.04 | 26.73 |
| 13000.0 | 1.01 | 20.50 | 20.90 |
| 13500.0 | 0.98 | 24.90 | 26.21 |
| 14000.0 | 1.01 | 27.87 | 26.34 |
| 14500.0 | 1.01 | 21.49 | 21.60 |
| 15000.0 | 1.02 | 23.28 | 22.04 |
| 15500.0 | 1.00 | 35.48 | 24.53 |
| 16000.0 | 1.07 | 21.21 | 20.58 |
| 16500.0 | 1.08 | 21.85 | 22.11 |
| 17000.0 | 1.11 | 36.36 | 33.24 |
| 17500.0 | 1.13 | 26.18 | 25.22 |
| 18000.0 | 1.20 | 27.06 | 31.54 |

Typical Performance Curves



Outline Dimensions



GM1105 SERIES
SMA MALE (CONN-1)
N MALE (CONN-2)

| CASE STYLE # | A | | B | C | D | E | T | | WEIGHT GRAMS |
|--------------|-------|--------|-----------------|-----------------|-----------------|------------------|------|--------|--------------|
| | FEET | METERS | | | | | FEET | METERS | |
| GM1105-1 | 1.00 | .30 | 0.42 (10.67) | 0.312 (7.92) | 0.88 (22.35) | 0.750 (19.05) | .06 | .02 | 76 |
| GM1105-1.15 | 1.15 | .35 | | | | | .06 | .02 | 79 |
| GM1105-1.25 | 1.25 | .38 | | | | | .06 | .02 | 81 |
| GM1105-1.5 | 1.50 | .46 | | | | | .06 | .02 | 86 |
| GM1105-1.64 | 1.64 | .50 | | | | | .06 | .02 | 88 |
| GM1105-2 | 2.00 | .61 | | | | | .06 | .02 | 95 |
| GM1105-3 | 3.00 | .91 | | | | | .09 | .03 | 115 |
| GM1105-3.28 | 3.28 | 1.00 | | | | | .10 | .03 | 120 |
| GM1105-4 | 4.00 | 1.22 | | | | | .12 | .04 | 134 |
| GM1105-4.92 | 4.92 | 1.50 | | | | | .15 | .05 | 152 |
| GM1105-5 | 5.00 | 1.52 | | | | | .15 | .05 | 154 |
| GM1105-6 | 6.00 | 1.83 | .18 | .05 | 173 | | | | |
| GM1105-6.56 | 6.56 | 2.00 | .20 | .06 | 184 | | | | |
| GM1105-7 | 7.00 | 2.13 | .21 | .06 | 193 | | | | |
| GM1105-8 | 8.00 | 2.44 | .24 | .07 | 212 | | | | |
| GM1105-9 | 9.00 | 2.74 | .27 | .08 | 232 | | | | |
| GM1105-9.84 | 9.84 | 3.00 | .30 | .09 | 248 | | | | |
| GM1105-10 | 10.00 | 3.05 | .30 | .09 | 251 | | | | |
| GM1105-11 | 11.00 | 3.35 | .33 | .10 | 271 | | | | |

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. ± .03; 3Pl. ± .015

Note:

1. Flexible Coaxial Cable.
2. +.51 [13.00], -0 [0]



INTERNET <http://www.minicircuits.com>
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Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010
Mini-Circuits ISO 9001 & ISO 14001 Certified

Case Style



GM1105 SERIES

SMA MALE (CONN-1)

N MALE (CONN-2)

| CASE STYLE # | A | | B | C | D | E | T | | WEIGHT GRAMS |
|--------------|-------|--------|-----------------|-----------------|-----------------|------------------|------|--------|--------------|
| | FEET | METERS | | | | | FEET | METERS | |
| GM1105-12 | 12.00 | 3.66 | 0.42 (10.67) | 0.312 (7.92) | 0.88 (22.35) | 0.750 (19.05) | .36 | .11 | 290 |
| GM1105-13.1 | 13.12 | 4.00 | | | | | .39 | .12 | 312 |
| GM1105-14 | 14.00 | 4.27 | | | | | .42 | .13 | 329 |
| GM1105-15 | 15.00 | 4.57 | | | | | .45 | .14 | 349 |
| GM1105-16 | 16.00 | 4.88 | | | | | .48 | .15 | 368 |
| GM1105-21 | 21.00 | 6.40 | | | | | .63 | .19 | 466 |
| GM1105-22 | 22.00 | 6.71 | | | | | .66 | .20 | 485 |
| GM1105-25 | 25.00 | 7.62 | | | | | .75 | .23 | 544 |
| GM1105-35 | 35.00 | 10.67 | | | | | 1.05 | .32 | 739 |
| GM1105-39.4 | 39.37 | 12.00 | | | | | 1.18 | .36 | 824 |
| GM1105-40 | 40.00 | 12.19 | | | | | 1.20 | .37 | 836 |

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$



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Mini-Circuits ISO 9001 & ISO 14001 Certified



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 | - - - |