FLEX TEST™

# Test Cable

# CBL-5FT-NMNM+

50Ω 5 ft DC to 18 GHz N-Type Male

## FEATURES

- Wideband Coverage, DC to 18 GHz
- Extra-Rugged Construction With Strain Relief for Longer Life
- Stainless Steel N-Type 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*



*Generic photo used for illustration purposes only*

| | |
|---|---|
| **Model No.** | CBL-5FT-NMNM+ |
| **Case Style** | GM1106-5 |
| **Connectors** | N-Type 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] | | | 5 | | ft |
| Insertion Loss | DC–2.5 | – | 1.0 | 1.2 | dB |
| | 2.5–6 | – | 1.6 | 2.0 | |
| | 6–12 | – | 2.5 | 3.0 | |
| | 12–18 | – | 2.5 | 3.9 | |
| Return Loss | DC–2.5 | 20 | 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<br>539 W Max. at 1 GHz<br>363 W Max. at 2 GHz<br>180 W Max. at 6 GHz<br>117 W Max. at 12 GHz<br>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. A
ECO-019339
CBL-5FT-NMNM+
MCL NY
260618

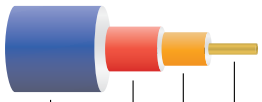
FLEX TEST™

# Test Cable

# CBL-5FT-NMNM+

50Ω 5 ft DC to 18 GHz N-Type Male

## CABLE CONSTRUCTION



Inner Conductor: Solid Silver-Plated Copper-Clad Steel

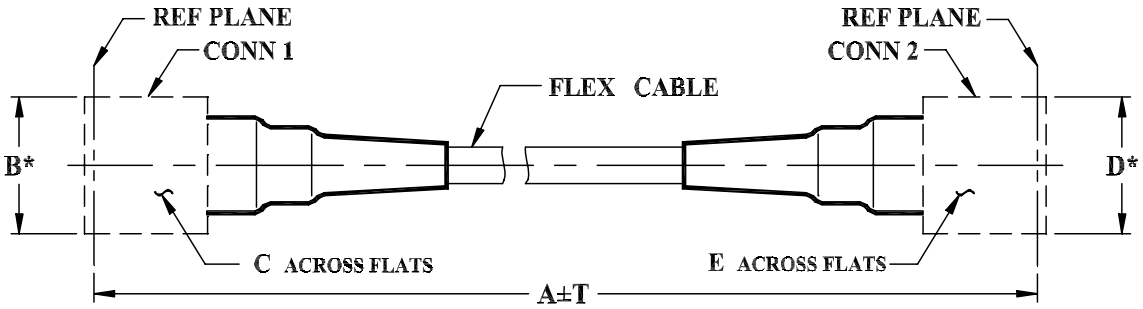
Dielectric: Solid PTFE

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 | .88 | .750 | .88 | .750 | Feet | Meters | grams |
| 5.00 | 1.52 | 22.35 | 19.05 | 22.35 | 19.05 | 0.15 | 0.05 | 195 |

FLEX TEST™

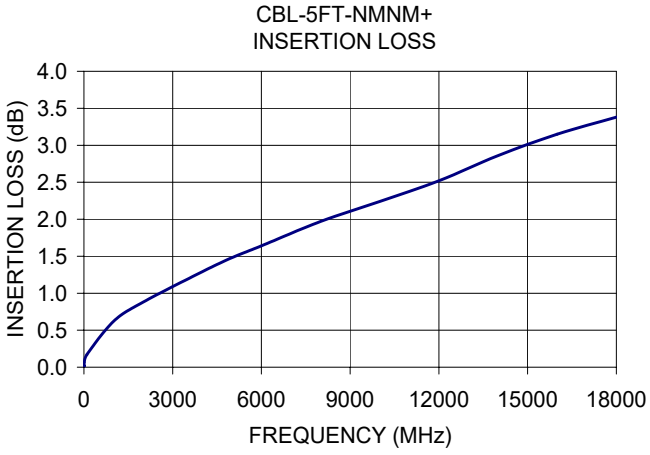
# Test Cable

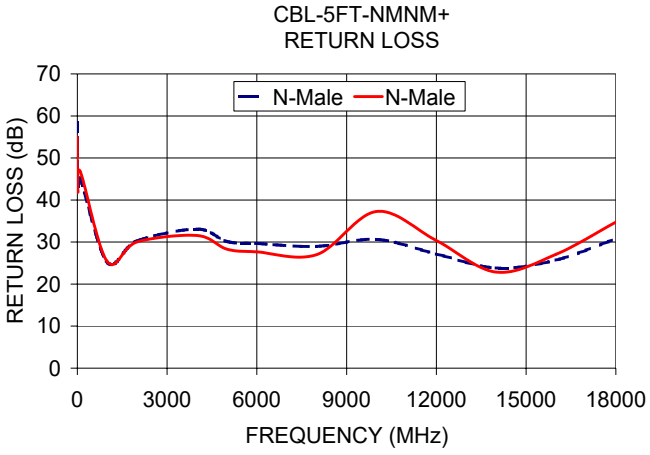
## CBL-5FT-NMNM+

50Ω 5 ft DC to 18 GHz N-Type Male

### TYPICAL PERFORMANCE DATA

| Frequenc (MHz) | Insertion Loss (dB) | Return Loss (dB) | |
|---|---|---|---|
| | | N-Type Male | N-Type Male |
| 0.30 | 0.02 | 58.38 | 55.00 |
| 1.00 | 0.02 | 52.55 | 51.43 |
| 10.00 | 0.06 | 42.13 | 41.88 |
| 100.00 | 0.17 | 44.97 | 46.75 |
| 1000.00 | 0.62 | 25.19 | 25.32 |
| 2000.00 | 0.88 | 30.27 | 30.04 |
| 4000.00 | 1.29 | 33.10 | 31.58 |
| 5000.00 | 1.48 | 30.13 | 28.32 |
| 6000.00 | 1.64 | 29.67 | 27.68 |
| 8000.00 | 1.97 | 28.98 | 27.02 |
| 10000.00 | 2.24 | 30.63 | 37.29 |
| 12000.00 | 2.52 | 27.14 | 30.36 |
| 14000.00 | 2.86 | 23.82 | 22.86 |
| 16000.00 | 3.15 | 25.71 | 27.09 |
| 18000.00 | 3.38 | 30.75 | 34.74 |




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, N-Male/N-Male CBL-5FT-NMNM+

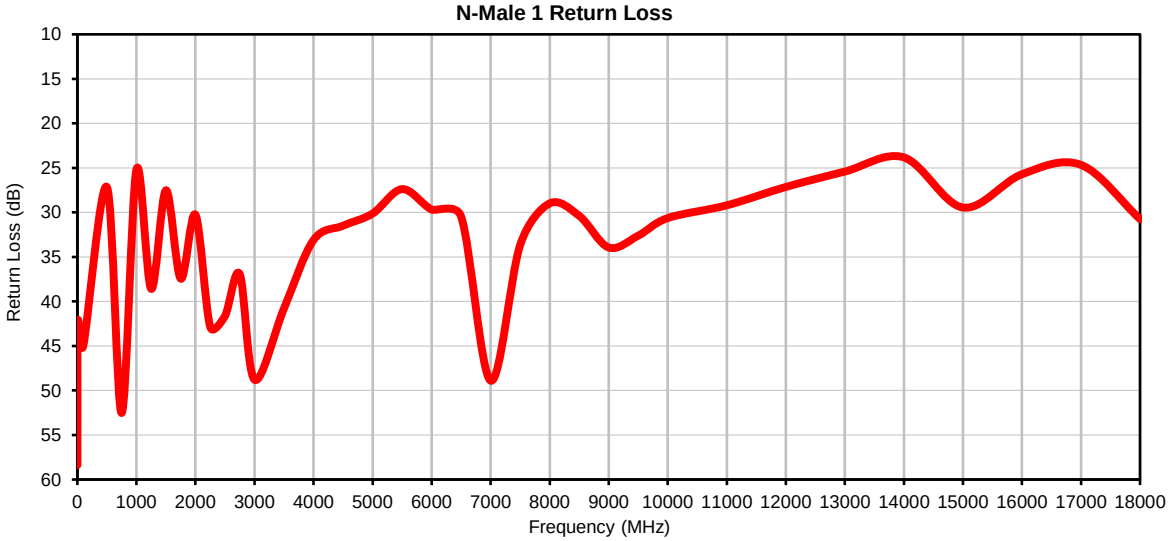
*Typical Performance Data*

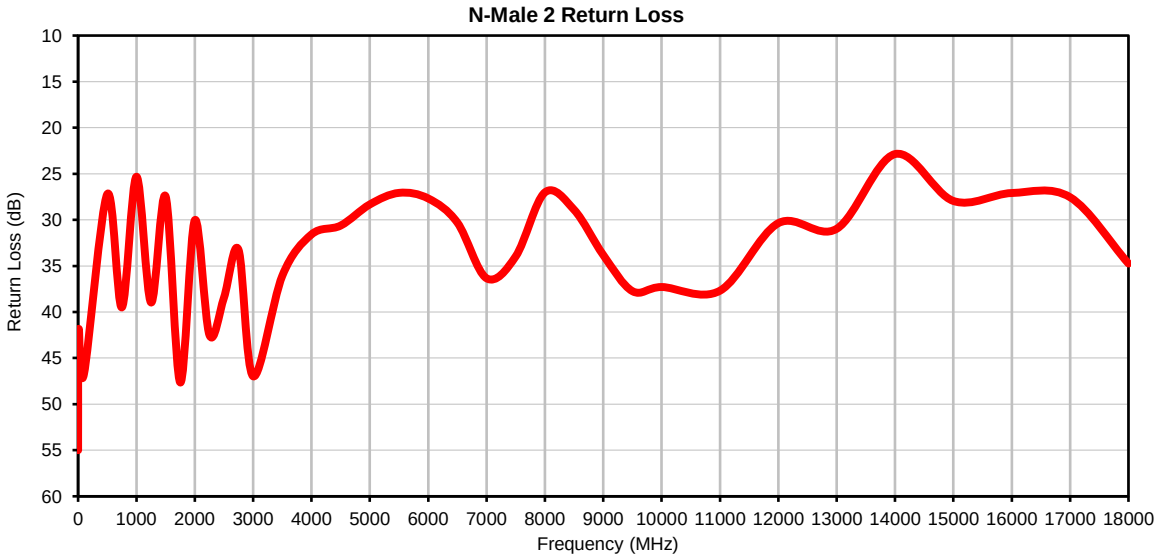
| FREQUENCY (MHz) | INSERTION LOSS (dB) | N-MALE 1 RETURN LOSS (dB) | N-MALE 2 RETURN LOSS (dB) |
|---|---|---|---|
| 0.3 | 0.02 | 58.38 | 55.00 |
| 1.0 | 0.02 | 52.55 | 51.43 |
| 10 | 0.06 | 42.13 | 41.88 |
| 100 | 0.17 | 44.97 | 46.75 |
| 500 | 0.42 | 27.16 | 27.21 |
| 750 | 0.51 | 52.52 | 39.50 |
| 1000 | 0.62 | 25.19 | 25.32 |
| 1250 | 0.68 | 38.59 | 38.97 |
| 1500 | 0.75 | 27.51 | 27.46 |
| 1750 | 0.81 | 37.44 | 47.65 |
| 2000 | 0.88 | 30.27 | 30.04 |
| 2250 | 0.94 | 42.86 | 42.48 |
| 2500 | 0.99 | 41.62 | 38.44 |
| 2750 | 1.04 | 36.94 | 33.27 |
| 3000 | 1.10 | 48.79 | 46.98 |
| 3500 | 1.20 | 40.77 | 36.06 |
| 4000 | 1.29 | 33.10 | 31.58 |
| 4500 | 1.39 | 31.49 | 30.62 |
| 5000 | 1.48 | 30.13 | 28.32 |
| 5500 | 1.57 | 27.38 | 27.07 |
| 6000 | 1.64 | 29.67 | 27.68 |
| 6500 | 1.72 | 30.47 | 30.30 |
| 7000 | 1.80 | 48.90 | 36.34 |
| 7500 | 1.88 | 33.65 | 33.96 |
| 8000 | 1.97 | 28.98 | 27.02 |
| 8500 | 2.03 | 30.38 | 28.91 |
| 9000 | 2.10 | 33.94 | 33.82 |
| 9500 | 2.18 | 32.61 | 37.74 |
| 10000 | 2.24 | 30.63 | 37.29 |
| 11000 | 2.41 | 29.20 | 37.69 |
| 12000 | 2.52 | 27.14 | 30.36 |
| 13000 | 2.64 | 25.41 | 30.97 |
| 14000 | 2.86 | 23.82 | 22.86 |
| 15000 | 2.89 | 29.45 | 27.95 |
| 16000 | 3.15 | 25.71 | 27.09 |
| 17000 | 3.22 | 24.66 | 27.55 |
| 18000 | 3.38 | 30.75 | 34.74 |

# Test Cable, N-Male/N-Male CBL-5FT-NMNM+

*Typical Performance Curves*



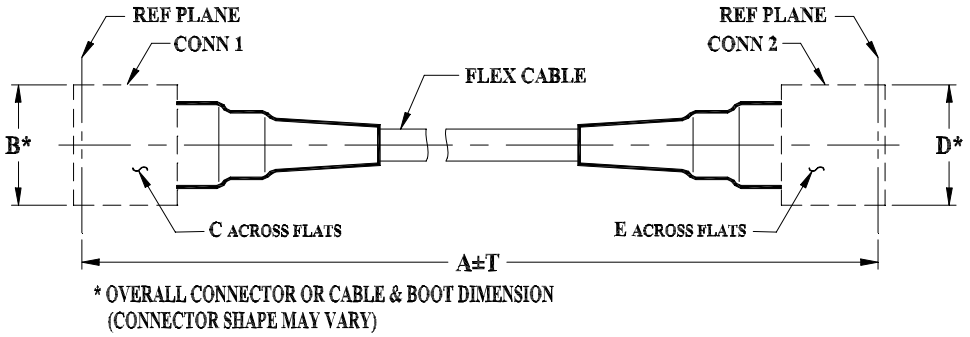



# Case Style GM

**GM1106**

## Outline Dimensions




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 | 1.00 | .30 | .88 (22.35) | .750 (19.05) | .88 (22.35) | .750 (19.05) | .06 | .02 | 117 |
| GM1106-1.5 | 1.50 | .46 | | | | | .06 | .02 | 127 |
| GM1106-1.64 | 1.64 | .50 | | | | | .06 | .02 | 129 |
| GM1106-2 | 2.00 | .61 | | | | | .06 | .02 | 137 |
| GM1106-3 | 3.00 | .91 | | | | | .09 | .03 | 156 |
| GM1106-3.28 | 3.28 | 1.00 | | | | | .10 | .03 | 161 |
| GM1106-4 | 4.00 | 1.22 | | | | | .12 | .04 | 176 |
| GM1106-4.92 | 4.92 | 1.50 | | | | | .15 | .05 | 193 |
| GM1106-5 | 5.00 | 1.52 | | | | | .15 | .05 | 195 |
| GM1106-6 | 6.00 | 1.83 | | | | | .18 | .05 | 215 |
| GM1106-6.56 | 6.56 | 2.00 | | | | | .20 | .06 | 225 |
| GM1106-7 | 7.00 | 2.13 | | | | | .21 | .06 | 221 |
| GM1106-7.5 | 7.50 | 2.29 | | | | | .23 | .07 | 244 |
| GM1106-8 | 8.00 | 2.44 | | | | | .24 | .07 | 240 |
| GM1106-9 | 9.00 | 2.74 | | | | | .27 | .08 | 273 |
| GM1106-9.84 | 9.84 | 3.00 | | | | | .30 | .09 | 289 |
| GM1106-10 | 10.00 | 3.05 | | | | | .30 | .09 | 293 |
| GM1106-12 | 12.00 | 3.66 | | | | | .36 | .11 | 332 |
| GM1106-13.1 | 13.12 | 4.00 | | | | | .39 | .12 | 353 |
| GM1106-15 | 15.00 | 4.57 | | | | | .45 | .14 | 390 |
| GM1106-16.4 | 16.40 | 5.00 | | | | | .49 | .15 | 417 |
| GM1106-20 | 20.00 | 6.10 | | | | | .60 | .18 | 488 |
| GM1106-25 | 25.00 | 7.62 | | | | | .75 | .23 | 585 |
| GM1106-30 | 30.00 | 9.14 | | | | | .90 | .27 | 683 |
| GM1106-50 | 50.00 | 15.24 | | | | | 1.50 | .46 | 1073 |
| GM1106-131 | 131.23 | 40.00 | | | | | 3.94 | 1.20 | 2656 |

**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
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


This document and its contents are the property of Mini-Circuits.

Mini-Circuits

# 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<br>Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 105°C<br>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<br>During each cycle, cable flexed from 90° through 0° to -90° and back with a Radii of 3 inches | - - - |


This document and its contents are the property of Mini-Circuits.