

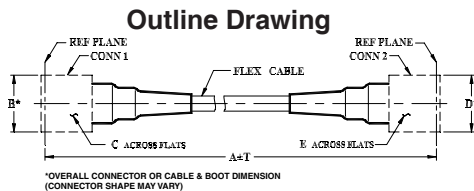
# FLEX<sup>TM</sup> TEST Quick-Connect Test Cable

50Ω 6FT DC to 18 GHz

## 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. |                |

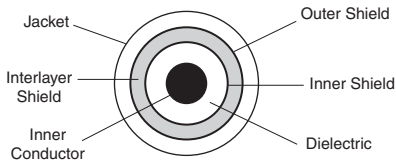
|                         |                      |
|-------------------------|----------------------|
| Shielding Effectiveness | >100 dB              |
| Power Handling at 25°C  | 891W Max. at 0.4 GHz |
|                         | 539W Max. at 1 GHz   |
|                         | 363W Max. at 2 GHz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



## Outline Dimensions (inch/mm)

| A    |        | B     | C     | D     | E     | T    |        | wt    |
|------|--------|-------|-------|-------|-------|------|--------|-------|
| Feet | Meters | 0.42  | 0.312 | 0.42  | 0.312 | Feet | Meters | grams |
| 6    | 1.83   | 10.67 | 7.92  | 10.67 | 7.92  | 0.18 | 0.05   | 145   |

## Cable Cross Section



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

## 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

## Features

- RoHS compliant
- 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\*

## 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

# CBL6SMQ-SM+



CASE STYLE: GM1006-6

| Connectors          | Model                            |
|---------------------|----------------------------------|
| Conn1<br>SMA-MALE** | Conn2<br>SMA-MALE<br>CBL6SMQ-SM+ |

## +RoHS Compliant

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

## Electrical Specifications at 25°C

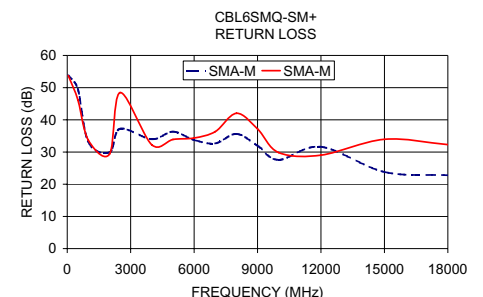
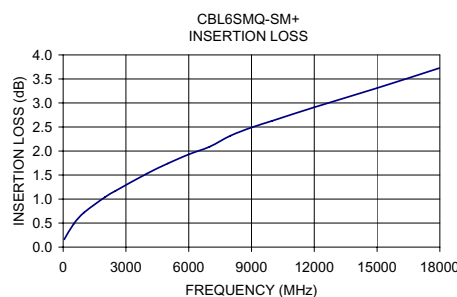
| FREQ.<br>(GHz) | LENGTH<br>(FT) | INSERTION LOSS<br>(dB) |              |             |              | RETURN LOSS<br>(dB) |              |             |              |
|----------------|----------------|------------------------|--------------|-------------|--------------|---------------------|--------------|-------------|--------------|
|                |                | DC-2.5<br>GHz          | 2.5-6<br>GHz | 6-12<br>GHz | 12-18<br>GHz | DC-2.5<br>GHz       | 2.5-6<br>GHz | 6-12<br>GHz | 12-18<br>GHz |
| $f_L - f_U$    |                | Typ. Max.              | Typ. Max.    | Typ. Max.   | Typ. Max.    | Typ. Min.           | Typ. Min.    | Typ. Min.   | Typ. Min.    |
| DC-18          | 6              | 1.2 1.4                | 2.0 2.35     | 3.0 3.5     | 3.8 4.55     | 30 23               | 30 20        | 27 17       | 22 17        |

Custom sizes available, consult factory.

\*\* Quick-turn connector, one turn to mate on one side only (marking: 1T)

## Typical Performance Data

| Frequency<br>(MHz) | Insertion Loss<br>(dB) | Return Loss<br>(dB) |          |
|--------------------|------------------------|---------------------|----------|
|                    |                        | SMA-MALE            | SMA-MALE |
| 50.00              | 0.16                   | 53.78               | 53.72    |
| 500.00             | 0.48                   | 49.60               | 46.27    |
| 1000.00            | 0.72                   | 33.08               | 33.66    |
| 2000.00            | 1.04                   | 29.90               | 29.34    |
| 2500.00            | 1.17                   | 37.22               | 48.47    |
| 4000.00            | 1.53                   | 33.97               | 32.25    |
| 5000.00            | 1.74                   | 36.35               | 33.91    |
| 6000.00            | 1.93                   | 33.76               | 34.36    |
| 7000.00            | 2.09                   | 32.69               | 36.35    |
| 8000.00            | 2.32                   | 35.63               | 42.04    |
| 9000.00            | 2.49                   | 31.97               | 37.17    |
| 10000.00           | 2.63                   | 27.58               | 29.84    |
| 12000.00           | 2.91                   | 31.65               | 29.02    |
| 15000.00           | 3.31                   | 23.81               | 33.96    |
| 18000.00           | 3.73                   | 22.79               | 32.29    |



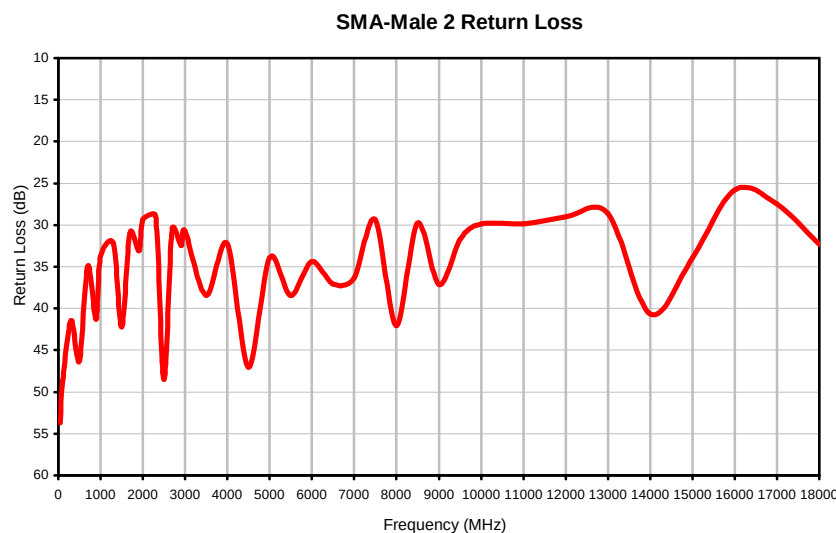
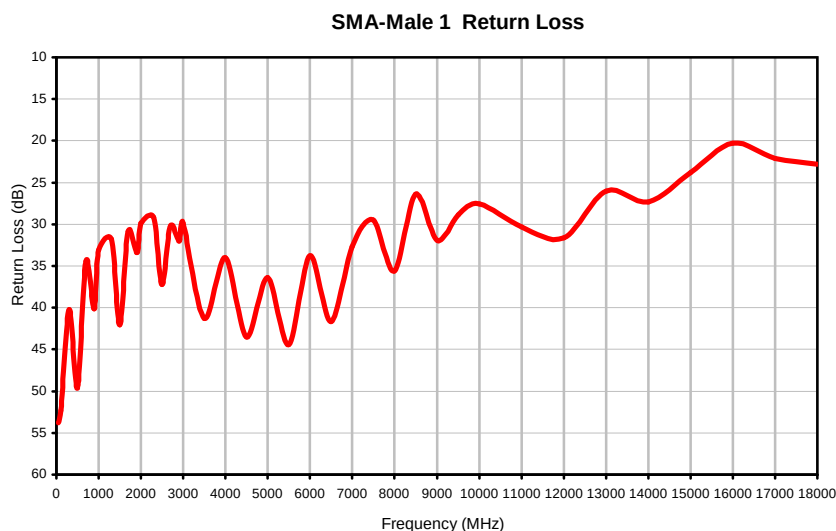
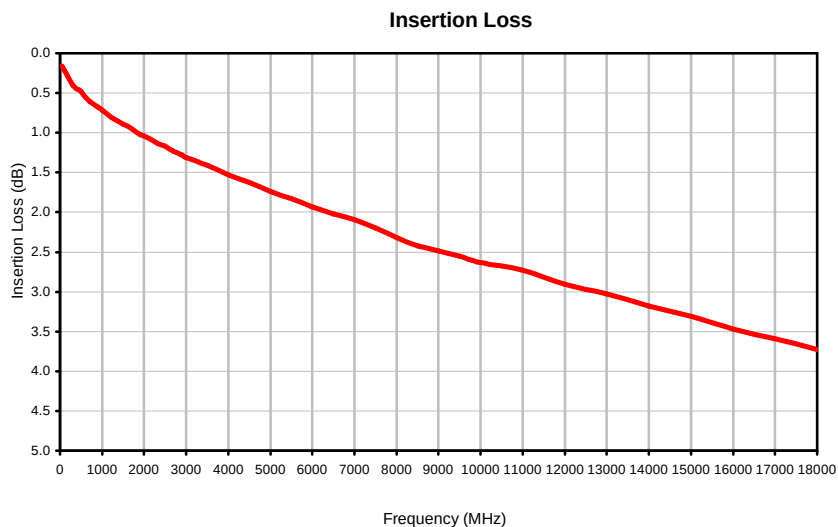
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REV. C  
M151107  
CBL6SMQ-SM+  
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150709

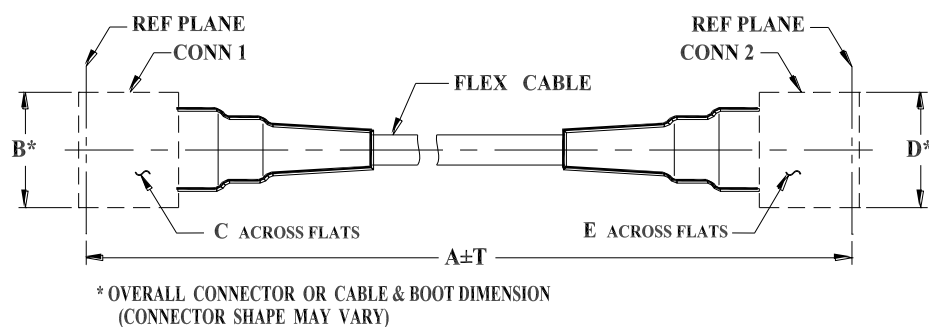
## Typical Performance Data

| FREQUENCY<br>(MHz) | INSERTION LOSS<br>(dB) | SMA-MALE 1<br>RETURN LOSS<br>(dB) | SMA-MALE 2<br>RETURN LOSS<br>(dB) |
|--------------------|------------------------|-----------------------------------|-----------------------------------|
| 50                 | 0.16                   | 53.78                             | 53.72                             |
| 100                | 0.22                   | 52.32                             | 48.58                             |
| 300                | 0.40                   | 40.23                             | 41.48                             |
| 500                | 0.48                   | 49.60                             | 46.27                             |
| 700                | 0.60                   | 34.48                             | 34.93                             |
| 900                | 0.68                   | 40.11                             | 41.32                             |
| 1000               | 0.72                   | 33.08                             | 33.66                             |
| 1300               | 0.83                   | 31.76                             | 32.19                             |
| 1500               | 0.89                   | 42.03                             | 42.20                             |
| 1700               | 0.95                   | 30.89                             | 30.90                             |
| 1900               | 1.02                   | 33.37                             | 33.09                             |
| 2000               | 1.04                   | 29.90                             | 29.34                             |
| 2300               | 1.13                   | 29.15                             | 28.93                             |
| 2500               | 1.17                   | 37.22                             | 48.47                             |
| 2700               | 1.23                   | 30.22                             | 30.44                             |
| 2900               | 1.28                   | 32.04                             | 32.45                             |
| 3000               | 1.31                   | 29.90                             | 30.72                             |
| 3500               | 1.41                   | 41.29                             | 38.47                             |
| 4000               | 1.53                   | 33.97                             | 32.25                             |
| 4500               | 1.63                   | 43.55                             | 47.03                             |
| 5000               | 1.74                   | 36.35                             | 33.91                             |
| 5500               | 1.83                   | 44.40                             | 38.48                             |
| 6000               | 1.93                   | 33.76                             | 34.36                             |
| 6500               | 2.02                   | 41.68                             | 37.09                             |
| 7000               | 2.09                   | 32.69                             | 36.35                             |
| 7500               | 2.20                   | 29.51                             | 29.30                             |
| 8000               | 2.32                   | 35.63                             | 42.04                             |
| 8500               | 2.42                   | 26.43                             | 29.75                             |
| 9000               | 2.49                   | 31.97                             | 37.17                             |
| 9500               | 2.55                   | 28.88                             | 31.70                             |
| 10000              | 2.63                   | 27.58                             | 29.84                             |
| 11000              | 2.73                   | 30.36                             | 29.90                             |
| 12000              | 2.91                   | 31.65                             | 29.02                             |
| 13000              | 3.03                   | 26.00                             | 28.61                             |
| 14000              | 3.18                   | 27.35                             | 40.66                             |
| 15000              | 3.31                   | 23.81                             | 33.96                             |
| 16000              | 3.47                   | 20.27                             | 25.81                             |
| 17000              | 3.59                   | 22.14                             | 27.47                             |
| 18000              | 3.73                   | 22.79                             | 32.29                             |

## Typical Performance Curves



### Outline Dimensions



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

| CASE STYLE # | A     |        | B               | C               | D               | E               | T    |        | WEIGHT<br>GRAMS |
|--------------|-------|--------|-----------------|-----------------|-----------------|-----------------|------|--------|-----------------|
|              | FEET  | METERS |                 |                 |                 |                 | FEET | METERS |                 |
| GM1006-1     | 1.00  | .30    | 0.42<br>(10.67) | 0.312<br>(7.92) | 0.42<br>(10.67) | 0.312<br>(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   | 0.42<br>(10.67) | 0.312<br>(7.92) | 0.42<br>(10.67) | 0.312<br>(7.92) | .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.



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Mini-Circuits ISO 9001 & ISO 14001 Certified

# Case Style

# GM

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

| CASE STYLE # | A     |        | B               | C               | D               | E               | T    |        | WEIGHT<br>GRAMS |
|--------------|-------|--------|-----------------|-----------------|-----------------|-----------------|------|--------|-----------------|
|              | FEET  | METERS |                 |                 |                 |                 | FEET | METERS |                 |
| GM1006-14    | 14.00 | 4.27   | 0.42<br>(10.67) | 0.312<br>(7.92) | 0.42<br>(10.67) | 0.312<br>(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            |

Unless otherwise specified dimensions are in inches (mm).



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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 | - - -                                                 |