



Mini-Circuits

HAND  
FLEX™

# Coaxial Cable

086-10BM+

50Ω 10 inch DC to 3 GHz BNC-Male

## THE BIG DEAL

- Wideband frequency coverage, DC to 3 GHz
- Low Loss, 0.3 dB at 3 GHz
- Excellent Return Loss, 30 dB at 3 GHz
- Hand formable to almost any custom shape without special bending tools
- 6mm bend radius for tight installations
- Insulated outer jacket standard<sup>1</sup>
- Connector interface, meets MIL-STD-348
- Ideal for interconnect of assembled systems



Generic photo used for illustration purposes only

|            |           |
|------------|-----------|
| Model No.  | 086-10BM+ |
| Case Style | KP2467-10 |
| Connectors | BNC-Male  |

## +RoHS Compliant

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

## APPLICATIONS

- Replacement for custom bent 0.086" semi-rigid cables
- Communication Receivers and Transmitters
- Military and Aerospace System
- Environmental and Test Chambers

## PRODUCT OVERVIEW

The 086-BM+ Series Hand-Flex™ Coaxial Cables are ideal for interconnecting coaxial components and sub-assemblies in a wide range of systems, including communications, military and aerospace, environmental test chambers and more. The hand-formable cable provides a minimum bend radius of 6mm to accommodate tight layouts without the need for bending tools, adapters or brackets. BNC-male connectors make these cables ideal for connection of assemblies with BNC connector types. 086-BM+ series cables are available in a variety of lengths to meet your system needs.

## KEY FEATURES

| Feature                                                                                                                  | Advantages                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hand-Flex™<br>(Hand-formable RF cables)                                                                                  | Facilitates the assembly of coaxial systems and sub-systems without the need for special cable bending tools or adapters. Reduces the risk of damage during bending. |
| Tight bend-radius, 6mm                                                                                                   | 6mm bend-radius makes the cable ideal for connections in tight spaces and crowded layouts.                                                                           |
| Low Insertion Loss                                                                                                       | Minimizes overall signal path loss.                                                                                                                                  |
| Excellent Return Loss                                                                                                    | Minimizes signal reflection and VSWR ripple contribution                                                                                                             |
| BNC-Male Connectors                                                                                                      | Supports easy interconnection of components and equipment in systems with BNC connector types.                                                                       |
| Good Power Handling Capability: <ul style="list-style-type: none"><li>• 211W at 0.5 GHz</li><li>• 80W at 3 GHz</li></ul> | Supports medium to high RF power levels used in transmit paths. For higher power handling, refer to our 141-XXBM+ series cables.                                     |

1. Unjacketed cable also available upon request.

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REV. A  
ECO-017558  
086-10BM+  
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## ELECTRICAL SPECIFICATIONS AT 25°C

| Parameter           | Frequency (GHz) | Min. | Typ. | Max. | Units  |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range     |                 | DC   |      | 3    | GHz    |
| Length <sup>2</sup> |                 | 10   |      |      | inches |
| Insertion Loss      | DC - 3          | —    | 0.22 | 0.6  | dB     |
| Return Loss         | DC - 3          | 19   | 37   | —    | dB     |

2. Custom sizes available, consult factory.

## ABSOLUTE MAXIMUM RATINGS

| Parameter                         | Ratings                                                           |
|-----------------------------------|-------------------------------------------------------------------|
| Operating Temperature             | -55°C to +105°C                                                   |
| Storage Temperature               | -55°C to +105°C                                                   |
| Power Handling at 25°C, Sea Level | 211W at 0.5 GHz<br>150W at 1 GHz<br>101W at 2 GHz<br>80W at 3 GHz |

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





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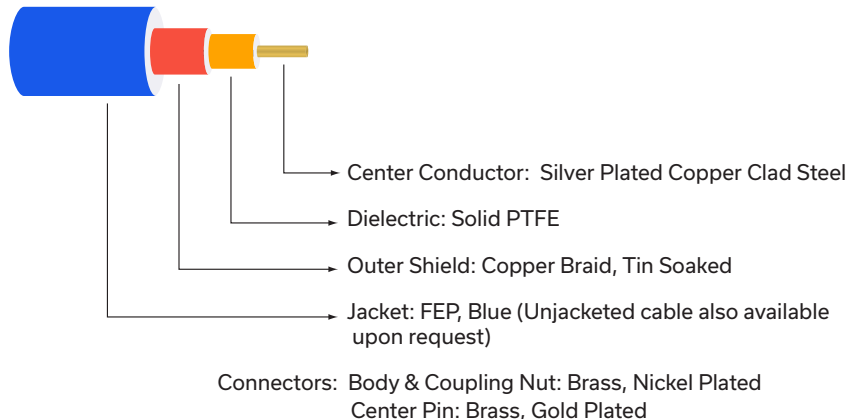
**HAND**  
**FLEX™**

# Coaxial Cable

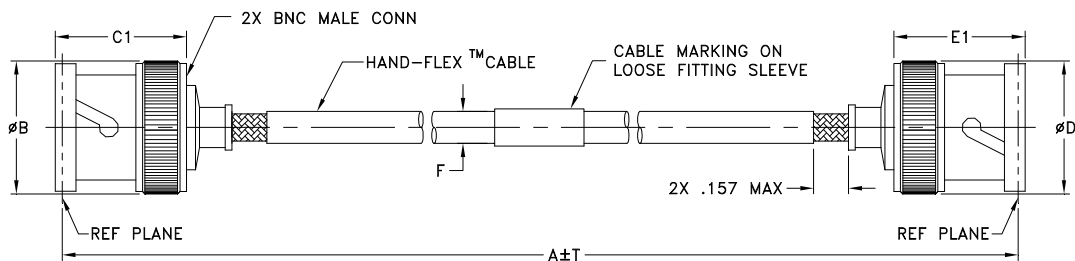
**086-10BM+**

50Ω 10 inch DC to 3 GHz BNC-Male

## CABLE CONSTRUCTION



## OUTLINE DRAWING



## OUTLINE DIMENSIONS (Inch/mm)

| A      | B    | C1    | C2 | D    | E1    | E2 | F    | T    | wt    |
|--------|------|-------|----|------|-------|----|------|------|-------|
| 10.0   | .57  | .59   | -- | .57  | .59   | -- | .108 | 0.10 | grams |
| 254.00 | 14.5 | 14.99 | -- | 14.5 | 14.99 | -- | 2.75 | 2.54 | 24.97 |





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# Coaxial Cable

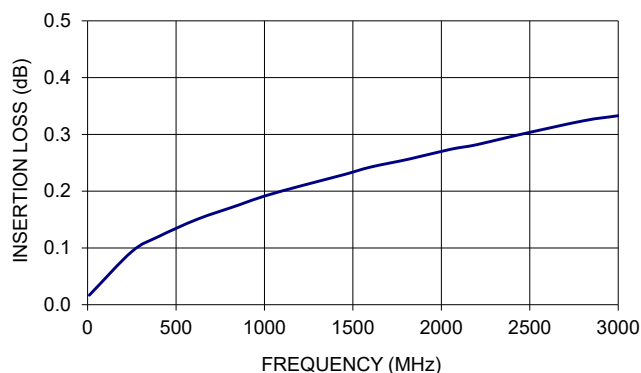
086-10BM+

50Ω 10 inch DC to 3 GHz BNC-Male

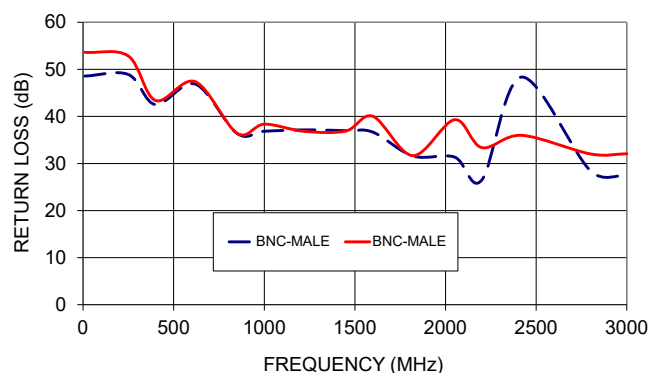
## TYPICAL PERFORMANCE DATA AND CHARTS

| Frequency<br>(MHz) | Insertion Loss<br>(dB) | Return Loss<br>(dB) |          |
|--------------------|------------------------|---------------------|----------|
|                    |                        | BNC-Male            | BNC-Male |
| 10                 | 0.02                   | 48.6                | 53.6     |
| 250                | 0.09                   | 48.9                | 52.8     |
| 400                | 0.12                   | 42.5                | 43.4     |
| 620                | 0.15                   | 46.9                | 47.4     |
| 850                | 0.18                   | 36.4                | 36.4     |
| 1000               | 0.19                   | 36.8                | 38.4     |
| 1220               | 0.21                   | 37.1                | 36.8     |
| 1450               | 0.23                   | 37.0                | 36.9     |
| 1600               | 0.24                   | 36.6                | 40.0     |
| 1820               | 0.26                   | 31.6                | 31.7     |
| 2050               | 0.27                   | 31.4                | 39.3     |
| 2200               | 0.28                   | 26.5                | 33.4     |
| 2420               | 0.30                   | 48.4                | 36.0     |
| 2800               | 0.32                   | 28.4                | 32.0     |
| 3000               | 0.33                   | 27.5                | 32.1     |

086-10BM+  
INSERTION LOSS



086-10BM+  
RETURN LOSS



### NOTES

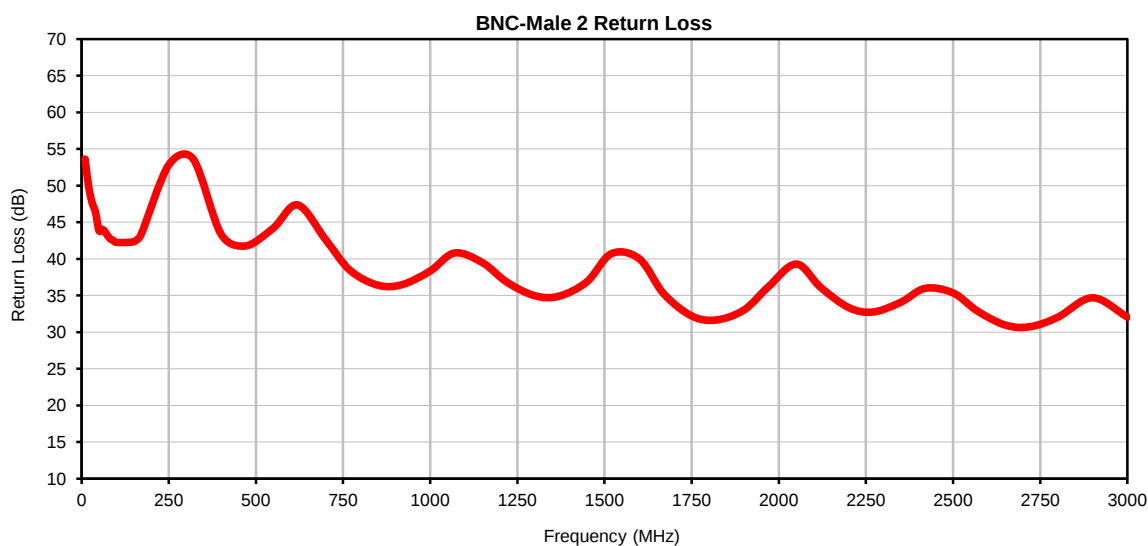
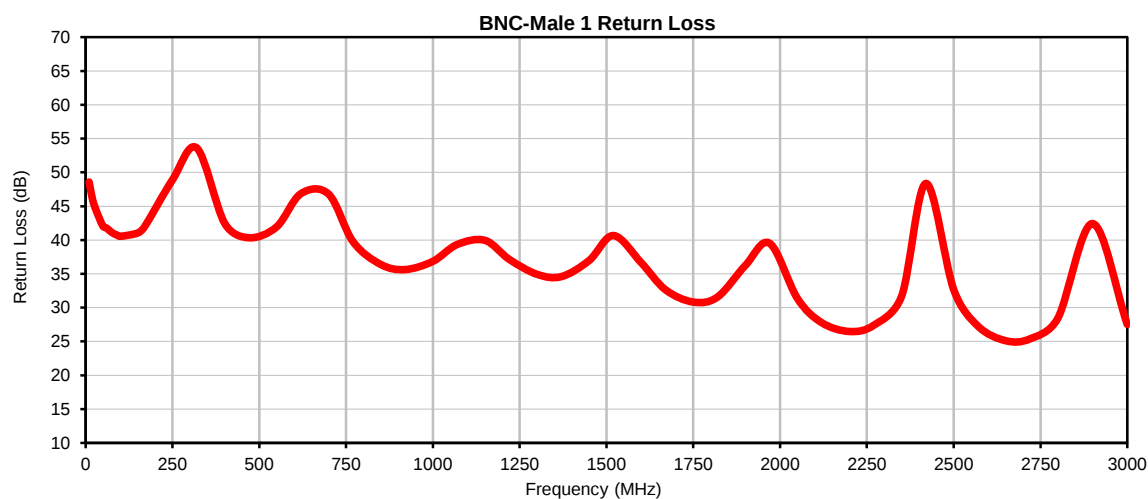
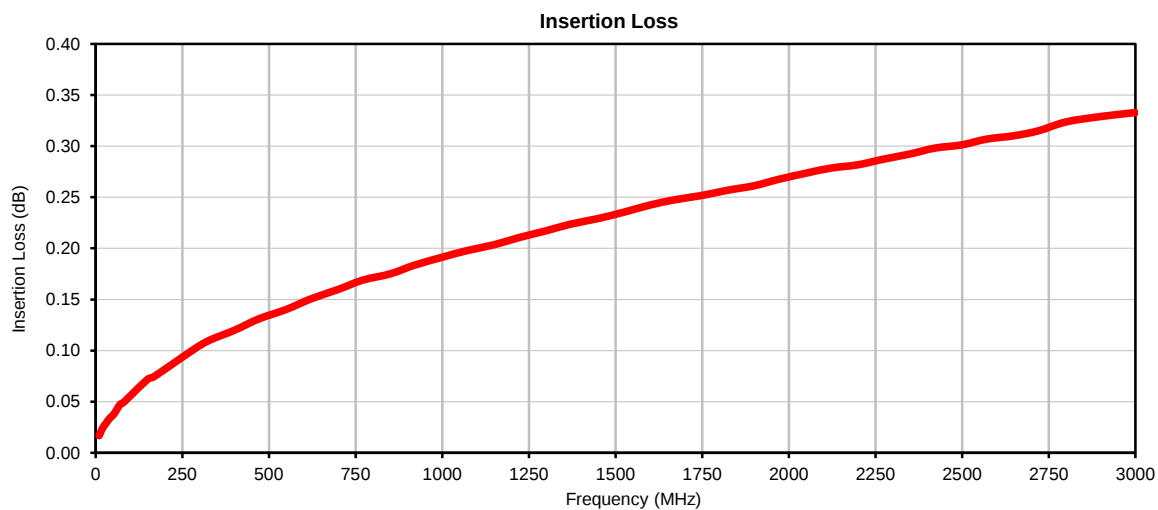
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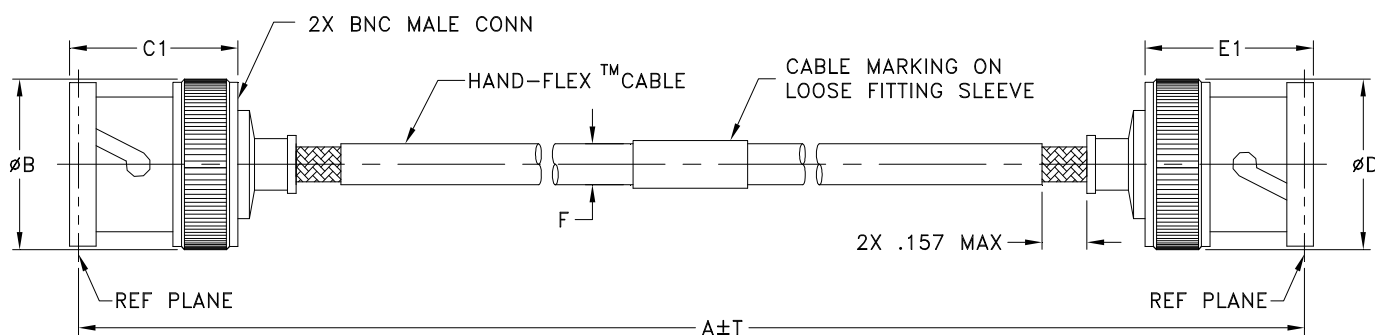
*Typical Performance Data*

| FREQUENCY<br>(MHz) | INSERTION<br>LOSS<br>(dB) | BNC-MALE 1<br>RETURN LOSS<br>(dB) | BNC-MALE 2<br>RETURN LOSS<br>(dB) |
|--------------------|---------------------------|-----------------------------------|-----------------------------------|
| 10                 | 0.02                      | 48.6                              | 53.6                              |
| 20                 | 0.02                      | 45.9                              | 49.9                              |
| 30                 | 0.03                      | 44.4                              | 47.7                              |
| 40                 | 0.03                      | 43.1                              | 46.3                              |
| 50                 | 0.04                      | 42.0                              | 43.8                              |
| 60                 | 0.04                      | 41.8                              | 44.0                              |
| 70                 | 0.05                      | 41.3                              | 43.5                              |
| 80                 | 0.05                      | 41.0                              | 42.8                              |
| 90                 | 0.05                      | 40.7                              | 42.5                              |
| 100                | 0.06                      | 40.5                              | 42.3                              |
| 150                | 0.07                      | 41.0                              | 42.4                              |
| 170                | 0.07                      | 42.0                              | 43.3                              |
| 250                | 0.09                      | 48.9                              | 52.8                              |
| 320                | 0.11                      | 53.6                              | 53.6                              |
| 400                | 0.12                      | 42.5                              | 43.4                              |
| 470                | 0.13                      | 40.3                              | 41.8                              |
| 550                | 0.14                      | 41.9                              | 44.2                              |
| 620                | 0.15                      | 46.9                              | 47.4                              |
| 700                | 0.16                      | 46.8                              | 42.6                              |
| 770                | 0.17                      | 39.8                              | 38.4                              |
| 850                | 0.18                      | 36.4                              | 36.4                              |
| 920                | 0.18                      | 35.6                              | 36.5                              |
| 1000               | 0.19                      | 36.8                              | 38.4                              |
| 1070               | 0.20                      | 39.3                              | 40.8                              |
| 1150               | 0.20                      | 39.9                              | 39.5                              |
| 1220               | 0.21                      | 37.1                              | 36.8                              |
| 1300               | 0.22                      | 34.9                              | 35.0                              |
| 1370               | 0.22                      | 34.6                              | 34.9                              |
| 1450               | 0.23                      | 37.0                              | 36.9                              |
| 1520               | 0.24                      | 40.7                              | 40.7                              |
| 1600               | 0.24                      | 36.6                              | 40.0                              |
| 1670               | 0.25                      | 32.6                              | 35.2                              |
| 1750               | 0.25                      | 30.8                              | 32.2                              |
| 1820               | 0.26                      | 31.6                              | 31.7                              |
| 1900               | 0.26                      | 36.2                              | 33.0                              |
| 1970               | 0.27                      | 39.5                              | 36.2                              |
| 2050               | 0.27                      | 31.4                              | 39.3                              |
| 2120               | 0.28                      | 27.8                              | 36.1                              |
| 2200               | 0.28                      | 26.5                              | 33.4                              |
| 2270               | 0.29                      | 27.4                              | 32.8                              |
| 2350               | 0.29                      | 31.7                              | 34.1                              |
| 2420               | 0.30                      | 48.4                              | 36.0                              |
| 2500               | 0.30                      | 32.7                              | 35.4                              |
| 2570               | 0.31                      | 27.3                              | 32.9                              |
| 2650               | 0.31                      | 25.1                              | 31.0                              |
| 2720               | 0.31                      | 25.4                              | 30.7                              |
| 2800               | 0.32                      | 28.4                              | 32.0                              |
| 2900               | 0.33                      | 42.4                              | 34.7                              |
| 3000               | 0.33                      | 27.5                              | 32.1                              |

## Typical Performance Curves



### Outline Dimensions



#### KP2467 SERIES

BNC MALE (CONN-1)

BNC MALE (CONN-2)

| CASE<br>STYLE # | A     |        | B             | C1            | C2 | D             | E1            | E2 | F                        |                        | T    |      | WEIGHT<br>GRAMS |
|-----------------|-------|--------|---------------|---------------|----|---------------|---------------|----|--------------------------|------------------------|------|------|-----------------|
|                 | INCH  | MM     |               |               |    |               |               |    | 086U-ABM+                | 086-ABM+               | INCH | MM   |                 |
| KP2467-6        | 6.00  | 152.40 | .57<br>(14.5) | .59<br>(14.9) | -  | .57<br>(14.5) | .59<br>(14.9) | -  | .089±.002<br>(2.26±0.05) | .108 NOM<br>(2.72 NOM) | .05  | 1.27 | 23.14           |
| KP2467-8        | 8.00  | 203.20 |               |               |    |               |               |    |                          |                        | .10  | 2.54 | 24.06           |
| KP2467-10       | 10.00 | 254.00 |               |               |    |               |               |    |                          |                        | .10  | 2.54 | 24.97           |
| KP2467-12       | 12.00 | 304.80 |               |               |    |               |               |    |                          |                        | .10  | 2.54 | 25.88           |
| KP2467-18       | 18.00 | 457.20 |               |               |    |               |               |    |                          |                        | .15  | 3.81 | 28.63           |
| KP2467-24       | 24.00 | 609.60 |               |               |    |               |               |    |                          |                        | .15  | 3.81 | 31.37           |
|                 |       |        |               |               |    |               |               |    |                          |                        |      |      |                 |
|                 |       |        |               |               |    |               |               |    |                          |                        |      |      |                 |
|                 |       |        |               |               |    |               |               |    |                          |                        |      |      |                 |
|                 |       |        |               |               |    |               |               |    |                          |                        |      |      |                 |
|                 |       |        |               |               |    |               |               |    |                          |                        |      |      |                 |

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. ± .03; 3Pl. ± .015

#### Note:

1. 141 Hand-Flex™ Coaxial Cable.
2. "A" represents length of cable.



INTERNET <http://www.minicircuits.com>

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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 or -55° to 85° C (see datasheet)<br>Ambient Environment       | Individual Model Data sheet |
| Storage Temperature   | -55° to 105° C or -55° to 85° C (see data sheet)<br>Ambient Environment      | Individual Model Data Sheet |
| Thermal Shock         | -55° to 100°C, 100 Cycles                                                    | MIL-STD-202F; Method 107G   |
| Multiple Bend Radius  | 40 mm, 5 times for 141 series cables<br>30 mm, 5 times for 086 series cables |                             |
| Single Bend Radius    | 8 mm for 141 series cables<br>6 mm for 086 series cables                     |                             |