

## Fixed Attenuator

HAT-10-75

75Ω 0.5W 10dB DC to 2000 MHz

## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -45°C to 100°C |
| Storage Temperature                                             | -55°C to 100°C |
| Permanent damage may occur if any of these limits are exceeded. |                |

## Features

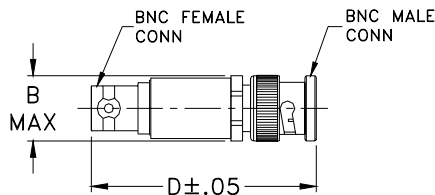
- excellent VSWR, 1.04:1 typ.
- excellent flatness, 0.05 dB typ. to 2000 MHz
- usable to 4000 MHz
- rugged unibody construction



CASE STYLE: FF747

|                     |           |
|---------------------|-----------|
| Connectors          | Model     |
| BNC Male-BNC Female | HAT-10-75 |

## Outline Drawing



## Outline Dimensions (inch/mm)

|       |       |       |
|-------|-------|-------|
| B     | D     | wt    |
| .62   | 1.94  | grams |
| 15.75 | 49.28 | 30.0  |

## Electrical Specifications

| FREQ.<br>RANGE<br>(MHz) | ATTENUATION<br>(dB)<br>Flatness* |      |      |             |      |             |      | VSWR<br>(:1)  |      |             |      |             |      | MAX.<br>INPUT<br>POWER†<br>(W) |
|-------------------------|----------------------------------|------|------|-------------|------|-------------|------|---------------|------|-------------|------|-------------|------|--------------------------------|
|                         |                                  |      |      |             |      |             |      |               |      |             |      |             |      |                                |
|                         | DC-0.5<br>GHz                    |      |      | DC-1<br>GHz |      | DC-2<br>GHz |      | DC-0.5<br>GHz |      | DC-1<br>GHz |      | DC-2<br>GHz |      |                                |
|                         | f <sub>L</sub> -f <sub>U</sub>   | Nom. | Typ. | Max.        | Typ. | Max.        | Typ. | Max.          | Typ. | Max.        | Typ. | Max.        | Typ. |                                |
| DC-2000                 | 10±0.2                           | 0.05 | 0.15 | 0.05        | 0.20 | 0.05        | 0.20 | 1.03          | 1.2  | 1.04        | 1.2  | 1.1         | 1.3  | 0.5                            |

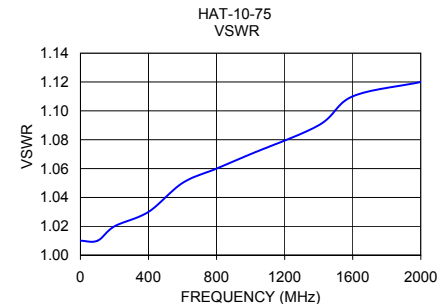
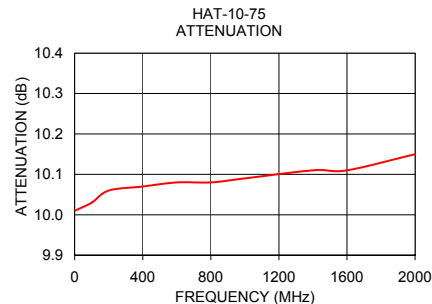
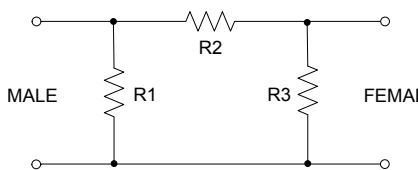
\* Flatness = variation over band divided by 2.

† 0.5 Watt at 70°C ambient, derate linearly .015W/°C above 70°C

## Typical Performance Data

| Frequency (MHz) | Attenuation (dB) | VSWR (:1) |
|-----------------|------------------|-----------|
| 1.00            | 10.01            | 1.01      |
| 100.00          | 10.03            | 1.01      |
| 200.00          | 10.06            | 1.02      |
| 400.00          | 10.07            | 1.03      |
| 600.00          | 10.08            | 1.05      |
| 800.00          | 10.08            | 1.06      |
| 1000.00         | 10.09            | 1.07      |
| 1400.00         | 10.11            | 1.09      |
| 1600.00         | 10.11            | 1.11      |
| 2000.00         | 10.15            | 1.12      |

## Electrical Schematic



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



## Typical Performance Data

| FREQUENCY<br>(MHz) | ATTENUATION<br>(dB) | RETURN LOSS<br>(dB) |
|--------------------|---------------------|---------------------|
| 1.00               | 10.01               | 46.06               |
| 100.00             | 10.03               | 46.06               |
| 200.00             | 10.06               | 40.09               |
| 400.00             | 10.07               | 36.61               |
| 600.00             | 10.08               | 32.26               |
| 800.00             | 10.08               | 30.71               |
| 1000.00            | 10.09               | 29.42               |
| 1400.00            | 10.11               | 27.32               |
| 1600.00            | 10.11               | 25.66               |
| 2000.00            | 10.15               | 24.94               |

REV. X1  
HAT-10-75  
061108  
Page 1 of 1



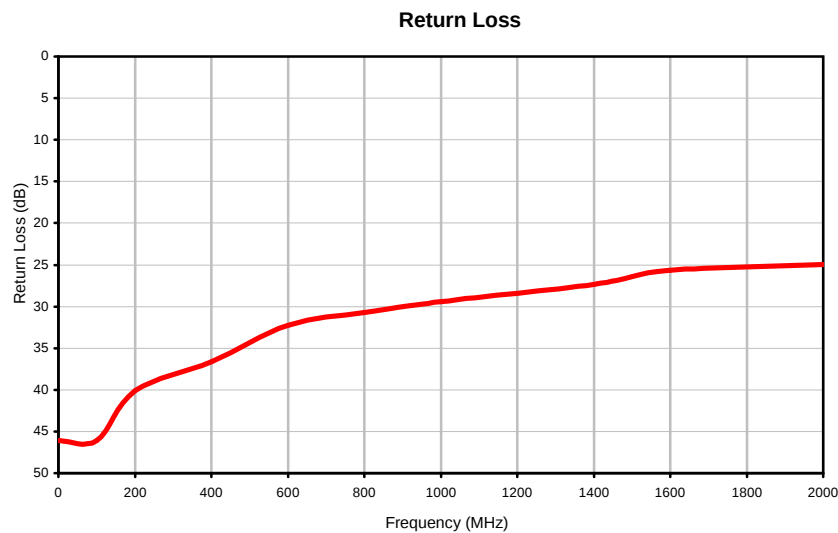
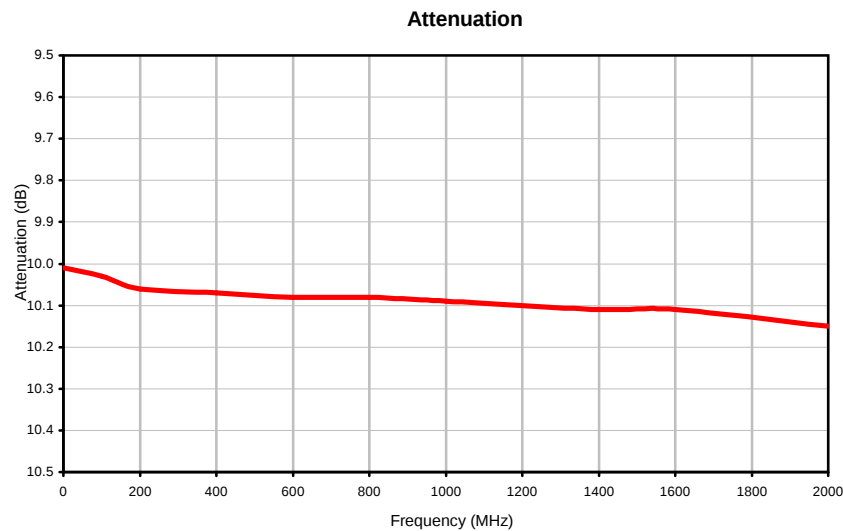
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant  
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



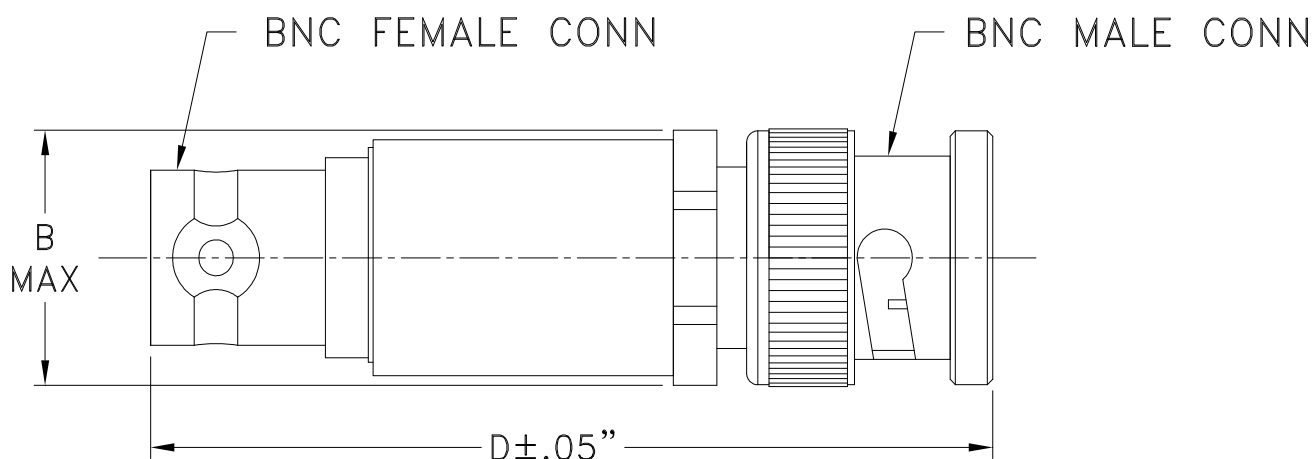
## Typical Performance Curves



# Case Style

# FF

## Outline Dimensions

**FF747**

| CASE #. | A  | B              | C  | D               | E  | WT GRAMS |
|---------|----|----------------|----|-----------------|----|----------|
| FF747   | -- | .62<br>(15.75) | -- | 1.94<br>(49.28) | -- | 30.0     |

Dimensions are in inches (mm). Tolerances: 2Pl. ±.04; 3Pl. ±.030

### Notes:

1. Case material: Brass.
2. Case finish: Nickel plate.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)

RF/IF MICROWAVE COMPONENTS



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      | -45° to 100° C<br>Ambient Environment                                                  | Individual Model Data Sheet          |
| Storage Temperature        | -55° to 100° C<br>Ambient Environment                                                  | Individual Model Data Sheet          |
| Barometric Pressure        | 100,000 Feet                                                                           | MIL-STD-202, Method 105, Condition D |
| Humidity                   | 90% RH, 65°C<br>Units may require bake-out after humidity to restore full performance. | MIL-STD-202, Method 103              |
| Thermal Shock              | -65° to 125°C, 5 cycles                                                                | MIL-STD-202, Method 107, Condition B |
| Vibration (High Frequency) | 20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)    | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock           | 100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)                          | MIL-STD-202, Method 213, Condition I |