

# Coaxial Adapter *SMA-F to SMA-FRP*

## SF-SFRP50+

50Ω DC to 12 GHz



Generic photo used for illustration purposes only

CASE STYLE: DJ2747

### The Big Deal

- Wideband, DC-12 GHz
- Flat response
- Low insertion loss, 0.3 dB typ.
- Excellent VSWR, 1.2:1 typ.

### Product Overview

Mini-Circuits' SF-SFRP50+ is a 50Ω coaxial SMA-Female to SMA-Female Reverse Polarity adapter supporting a wide range of applications from DC to 12 GHz. This model provides excellent VSWR, low insertion loss, and flat response across frequency. The SF-SFRP50+ features rugged, passivated stainless steel construction and measures only 0.87" (l) x 0.36" (dia.).

### Key Features

| Feature  | Advantages   |
|--|--|
| Wideband, DC to 12 GHz                               | Wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use      |
| Excellent VSWR, 1.2:1 typ.                           | Provides good matching for 50Ω systems and minimizes signal reflections across wide frequency range.                   |
| Low insertion loss, 0.3 dB typ.                      | Provides excellent signal power transmission from input to output.   |
| Rugged, passivated stainless steel construction.     | Stands up to wear and tear in demanding environments and provides excellent reliability.                               |
| Very wide operating temperature range, -55 to +100°C | Withstands extreme operating conditions and is suitable for use near high power componentry where heat rise is common. |

#### 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)



# Coaxial Adapter *SMA-F to SMA-FRP*

50Ω DC to 12 GHz

## Maximum Ratings

Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

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

## Features

- Flat response
- Excellent VSWR, 1.2:1 typ.
- Rugged stainless steel body

## Applications

- Cable extender

# SF-SFRP50+



Generic photo used for illustration purposes only

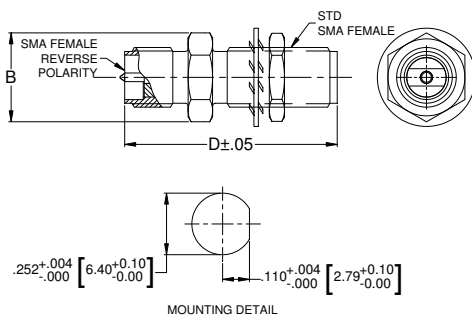
CASE STYLE: DJ2747

| Connectors |         | Model      |
|------------|---------|------------|
| Conn1      | Conn2   |            |
| SMA-F      | SMA-FRP | SF-SFRP50+ |

**+RoHS Compliant**

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

## Outline Drawing



## Outline Dimensions (inch/mm)

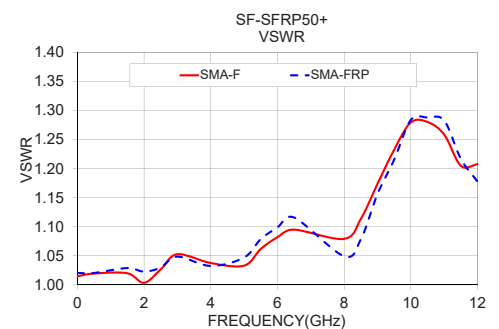
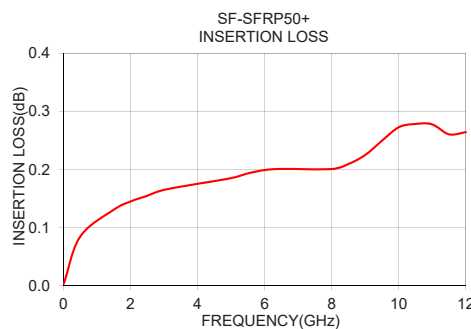
| A  | B    | C  | D     | E  | Wt.   |
|----|------|----|-------|----|-------|
| -- | .36  | -- | .87   | -- | grams |
| -- | 9.14 | -- | 22.10 | -- | 3.6   |

## Electrical Specifications at 25°C

| Parameter       | Condition (GHz) | Min. | Typ. | Max. | Units |
|-----------------|-----------------|------|------|------|-------|
| Frequency Range | DC-12           | -    | -    | -    | GHz   |
| Insertion Loss  | DC-12           | -    | 0.3  | -    | dB    |
| VSWR            | DC-5            | -    | 1.05 | 1.2  | :1    |
|                 | 5-12            | -    | 1.25 | -    |       |

## Typical Performance Data at 25°C

| Frequency (GHz) | Insertion Loss (dB) | VSWR (:1) |         |
|-----------------|---------------------|-----------|---------|
|                 |                     | SMA-F     | SMA-FRP |
| 0.01            | 0.00                | 1.02      | 1.02    |
| 0.50            | 0.08                | 1.02      | 1.02    |
| 1.50            | 0.13                | 1.02      | 1.03    |
| 2.00            | 0.14                | 1.00      | 1.02    |
| 2.50            | 0.15                | 1.03      | 1.03    |
| 3.00            | 0.16                | 1.05      | 1.05    |
| 4.00            | 0.18                | 1.04      | 1.03    |
| 5.00            | 0.19                | 1.03      | 1.05    |
| 5.50            | 0.19                | 1.06      | 1.08    |
| 6.00            | 0.20                | 1.08      | 1.10    |
| 6.50            | 0.20                | 1.10      | 1.12    |
| 8.00            | 0.20                | 1.08      | 1.05    |
| 8.50            | 0.21                | 1.11      | 1.08    |
| 9.00            | 0.22                | 1.17      | 1.16    |
| 9.50            | 0.25                | 1.23      | 1.22    |
| 10.00           | 0.27                | 1.28      | 1.28    |
| 10.50           | 0.28                | 1.28      | 1.29    |
| 11.00           | 0.28                | 1.26      | 1.28    |
| 11.50           | 0.26                | 1.20      | 1.22    |
| 12.00           | 0.26                | 1.21      | 1.18    |



## Notes

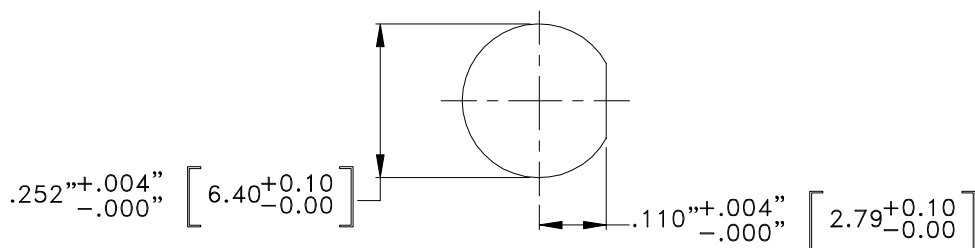
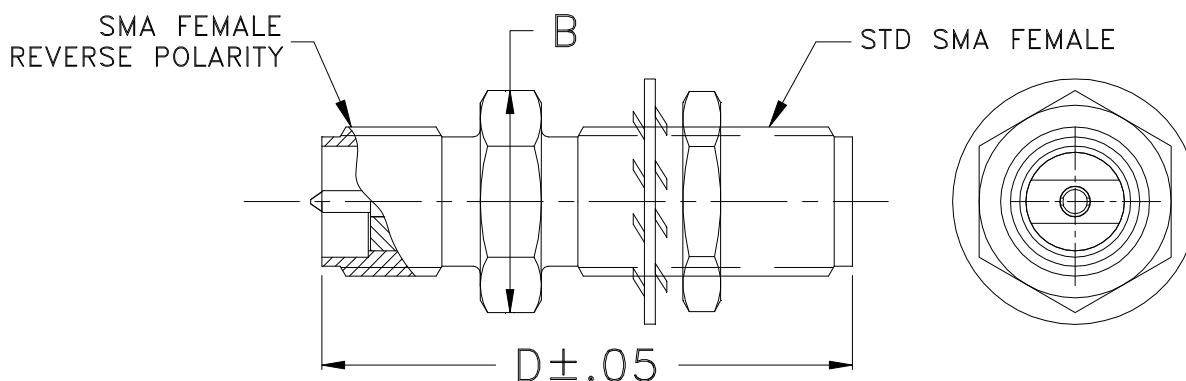
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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)



[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 [sales@minicircuits.com](mailto:sales@minicircuits.com)

REV. A  
ECO-017559  
SF-SFRP50+  
EDU3122  
URJ  
230422  
Page 2 of 2

## Outline Dimensions



MOUNTING DETAIL

| CASE#  | A  | B             | C  | D              | E  | WT. GRAM |
|--------|----|---------------|----|----------------|----|----------|
| DJ2747 | -- | .36<br>(9.14) | -- | .87<br>(22.10) | -- | 3.6      |

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .03$ ; 3 Pl.  $\pm .015$

### Notes:

1. Case material: Stainless steel.
2. Finish: Passivation
3. Hex nut & lock washer included.
4. Recommended wall (panel) thickness: .100....250".



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      | -55° 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 |