COAXIAL

# Adapter, SMA-F to SMA-F

# SF-SF50+

50Ω DC to 18 GHz

## FEATURES

- Flat response
- Excellent VSWR, 1.2:1 typ. up to 12.4 GHz and 1.35:1 typ. up to 18 GHz
- Low cost adapters, available from stock
- Rugged stainless steel body



*Generic photo used for illustration purposes only*

| | |
|---|---|
| **Model No.** | SF-SF50+ |
| **Case Style** | DJ952 |
| **Connectors** | SMA-F to SMA-F |

## APPLICATIONS

- Interconnection of RF cables and equipment

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

## ELECTRICAL SPECIFICATIONS AT +25 °C

| Parameter | Frequency (GHz) | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|
| Frequency Range | | DC | | 18 | GHz |
| Insertion Loss | DC–18 | — | 0.1 | — | dB |
| VSWR | DC–8 | — | — | 1.15 | :1 |
| | DC–12.4 | — | — | 1.25 | |
| | DC–18 | — | — | 1.40 | |

## ABSOLUTE MAXIMUM RATINGS

| Parameter | 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.

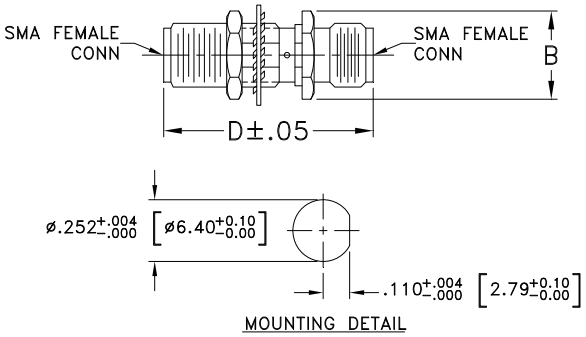
REV. D
ECO-012138
SF-SF50+
MCL NY
260427

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# Adapter, SMA-F to SMA-F

# SF-SF50+

## OUTLINE DRAWING

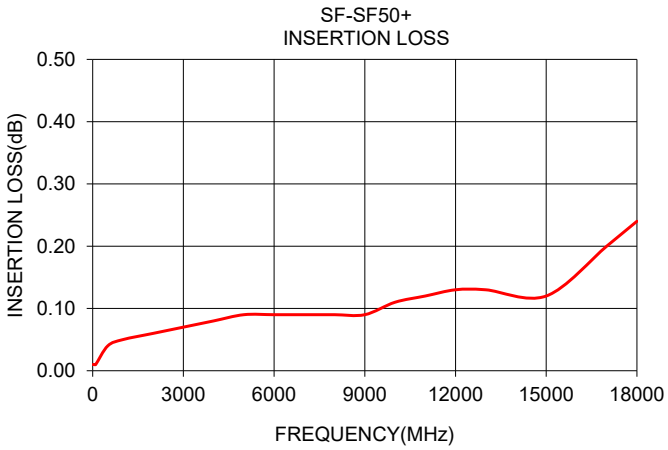


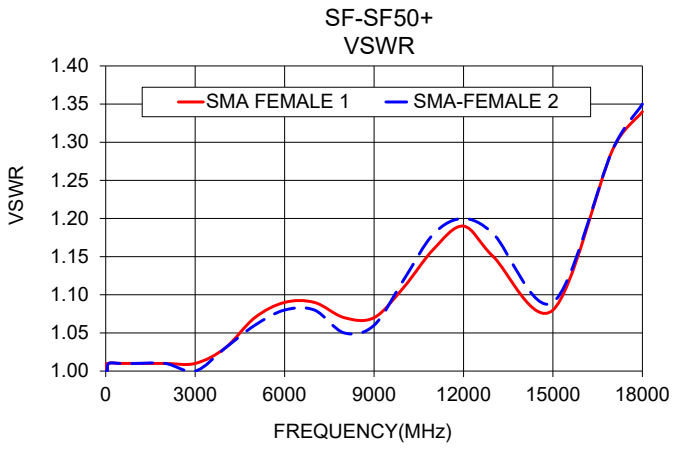

## OUTLINE DIMENSIONS (inch / mm)

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

## TYPICAL PERFORMANCE DATA

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) SMA-FEMALE | VSWR (:1) SMA-FEMALE |
|---|---|---|---|
| 10 | 0.01 | 1.01 | 1.00 |
| 50 | 0.01 | 1.00 | 1.00 |
| 100 | 0.01 | 1.01 | 1.01 |
| 500 | 0.04 | 1.01 | 1.01 |
| 1000 | 0.05 | 1.01 | 1.01 |
| 2000 | 0.06 | 1.01 | 1.01 |
| 3000 | 0.07 | 1.01 | 1.00 |
| 4000 | 0.08 | 1.03 | 1.03 |
| 5000 | 0.09 | 1.07 | 1.06 |
| 6000 | 0.09 | 1.09 | 1.08 |
| 7000 | 0.09 | 1.09 | 1.08 |
| 8000 | 0.09 | 1.07 | 1.05 |
| 9000 | 0.09 | 1.07 | 1.06 |
| 10000 | 0.11 | 1.11 | 1.12 |
| 11000 | 0.12 | 1.16 | 1.18 |
| 12000 | 0.13 | 1.19 | 1.20 |
| 13000 | 0.13 | 1.15 | 1.18 |
| 15000 | 0.12 | 1.08 | 1.09 |
| 17000 | 0.20 | 1.29 | 1.29 |
| 18000 | 0.24 | 1.34 | 1.35 |




**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

# Adapter, SMA-Female to SMA-Female SF-SF50+

*Typical Performance Data*

| FREQUENCY (MHz) | INSERTION LOSS (dB) | SMA-FEMALE 1 RETURN LOSS (dB) | SMA-FEMALE 2 RETURN LOSS (dB) |
|---|---|---|---|
| 10 | 0.01 | 46.06 | 46.06 |
| 50 | 0.01 | 46.06 | 46.06 |
| 100 | 0.01 | 46.06 | 46.06 |
| 500 | 0.04 | 46.06 | 46.06 |
| 1000 | 0.05 | 46.06 | 46.06 |
| 2000 | 0.06 | 46.06 | 46.06 |
| 3000 | 0.07 | 46.06 | 46.06 |
| 4000 | 0.08 | 36.61 | 36.61 |
| 5000 | 0.09 | 29.42 | 30.71 |
| 6000 | 0.09 | 27.32 | 28.30 |
| 7000 | 0.09 | 27.32 | 28.30 |
| 8000 | 0.09 | 29.42 | 32.26 |
| 9000 | 0.09 | 29.42 | 30.71 |
| 10000 | 0.11 | 25.66 | 24.94 |
| 11000 | 0.12 | 22.61 | 21.66 |
| 12000 | 0.13 | 21.23 | 20.83 |
| 13000 | 0.13 | 23.13 | 21.66 |
| 15000 | 0.12 | 28.30 | 27.32 |
| 17000 | 0.20 | 17.95 | 17.95 |
| 18000 | 0.24 | 16.75 | 16.54 |

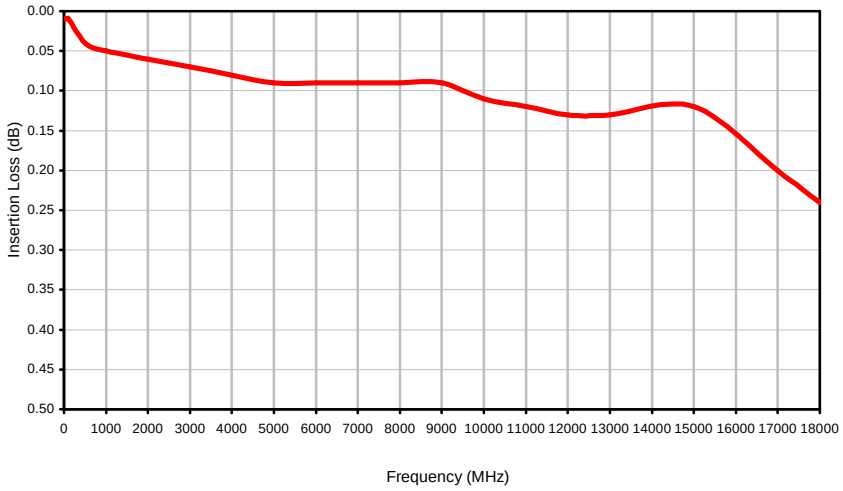


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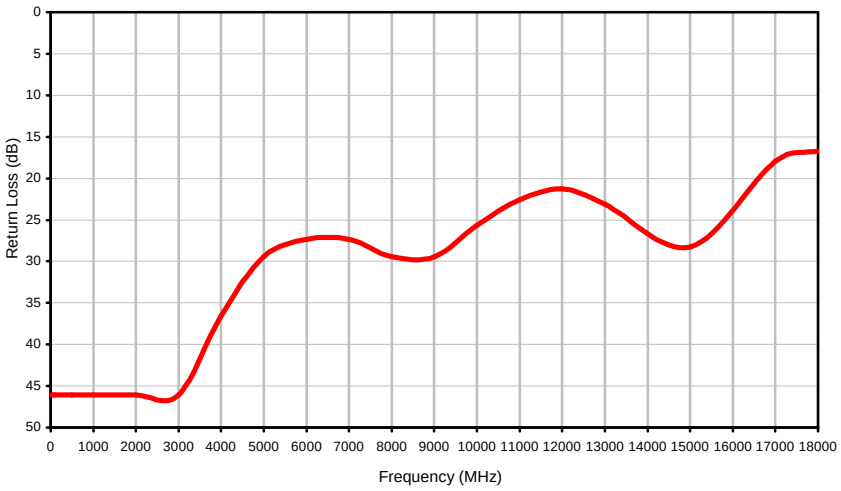
# Adapter, SMA-Female to SMA-Female SF-SF50+

## *Typical Performance Curves*

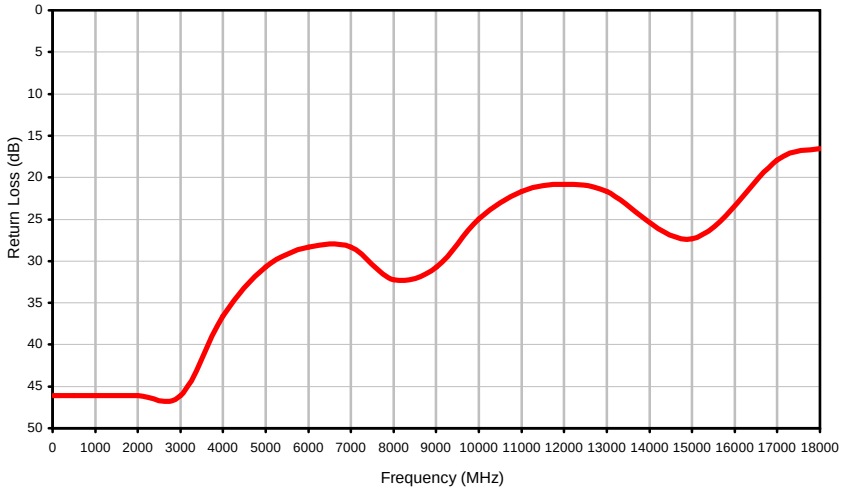
**Insertion Loss**




**SMA-Female 1 Return Loss**




**SMA-Female 2 Return Loss**



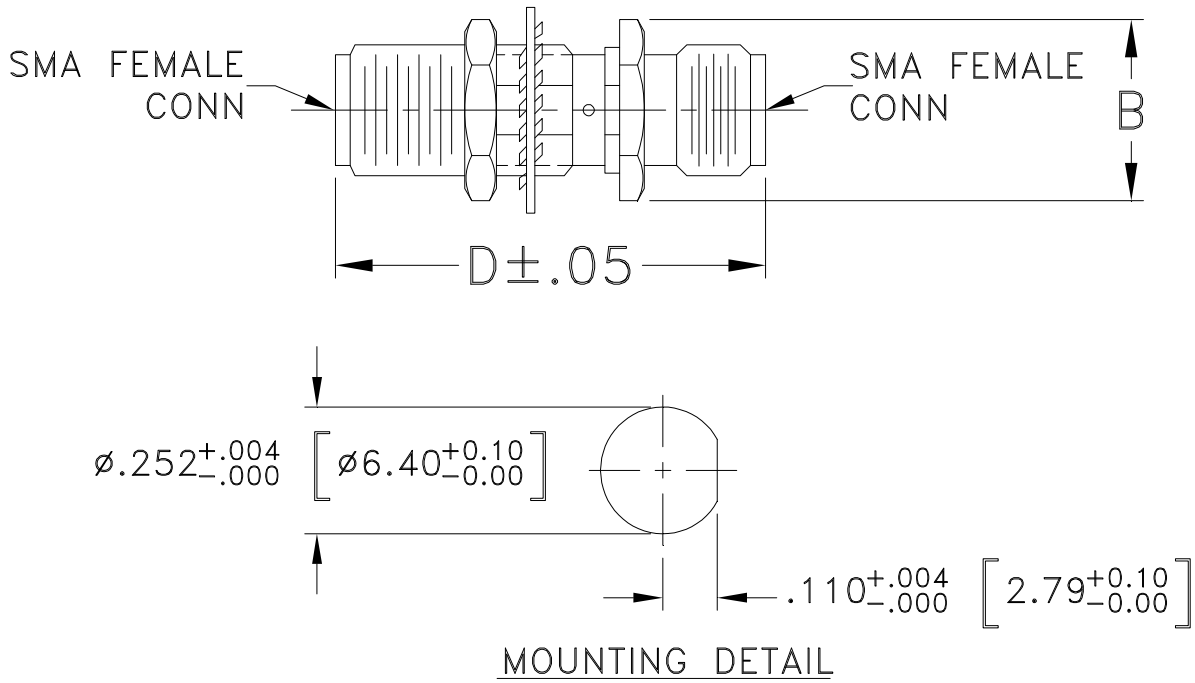



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# Case Style DJ

**DJ952**

## Outline Dimensions




| CASE# | A | B | C | D | E | WT. GRAM |
|---|---|---|---|---|---|---|
| DJ952 | --<br>-- | .36<br>(9.14) | --<br>-- | .87<br>(22.10) | --<br>-- | 3.6 |

**Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3 Pl. ± .015**

**Notes:**

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



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# Environmental Specifications ENV28

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 |


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