COAXIAL

# Adapter

# 135FR-185M+

50Ω DC to 67 GHz Right-Angle 1.35 mm-Female to 1.85 mm-Male

## KEY FEATURES

- Ultra-Wideband, DC to 67 GHz
- Low Insertion Loss, 0.29 dB Typ.
- Excellent VSWR, 1.10:1 Typ.
- Right-Angle Body

*Generic photo used for illustration purposes only*

## PRODUCT OVERVIEW

Mini-Circuits' 135FR-185M+ is a coaxial 1.35 mm-Female Right-Angle to 1.85 mm-Male adapter supporting a wide range of applications from DC to 67 GHz. This model provides excellent VSWR and low insertion loss versus frequency. The 135FR-185M+ features passivated stainless-steel construction and measures only 0.657" in length.

## ELECTRICAL SPECIFICATIONS[1] AT +25°C

| Parameter | Frequency (GHz) | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|
| Frequency Range | - | DC | - | 67 | GHz |
| Insertion Loss | DC-15 | - | 0.12 | 0.73 | dB |
| | 15-45 | - | 0.27 | 0.73 | |
| | 45-67 | - | 0.43 | 0.73 | |
| VSWR | DC-15 | - | 1.05 | 1.40 | :1 |
| | 15-45 | - | 1.13 | 1.45 | |
| | 45-67 | - | 1.11 | 1.45 | |

1. Specifications are tested to minimum frequency of 0.01 GHz.

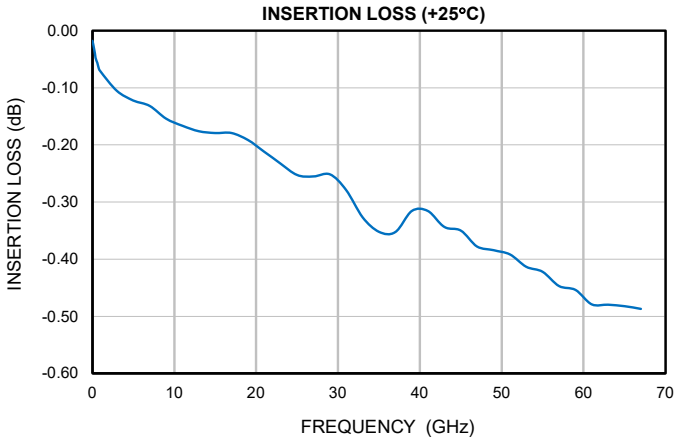
## ABSOLUTE MAXIMUM RATINGS[2]

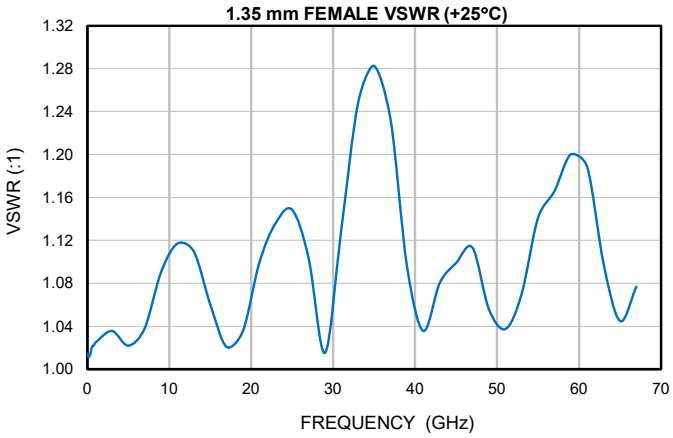
| | |
|---|---|
| **Operating Case Temperature** | -45 °C to +125 °C |
| **Storage Temperature** | -45 °C to +125 °C |

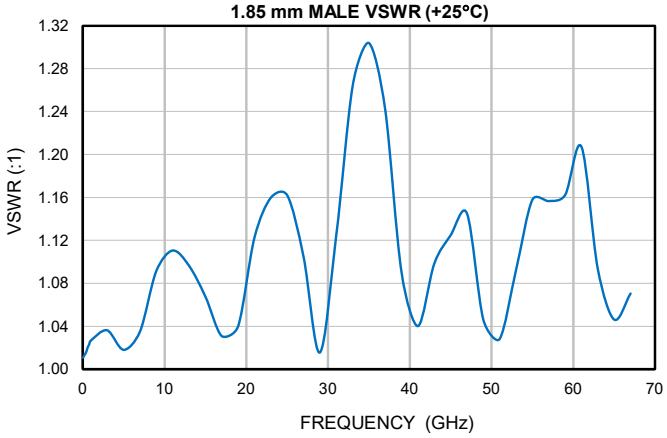
2. Permanent damage may occur if any of these limits are exceeded.

REV. OR
ECO-027249
135FR-185M+
MCL NY
251008

## TYPICAL PERFORMANCE GRAPHS



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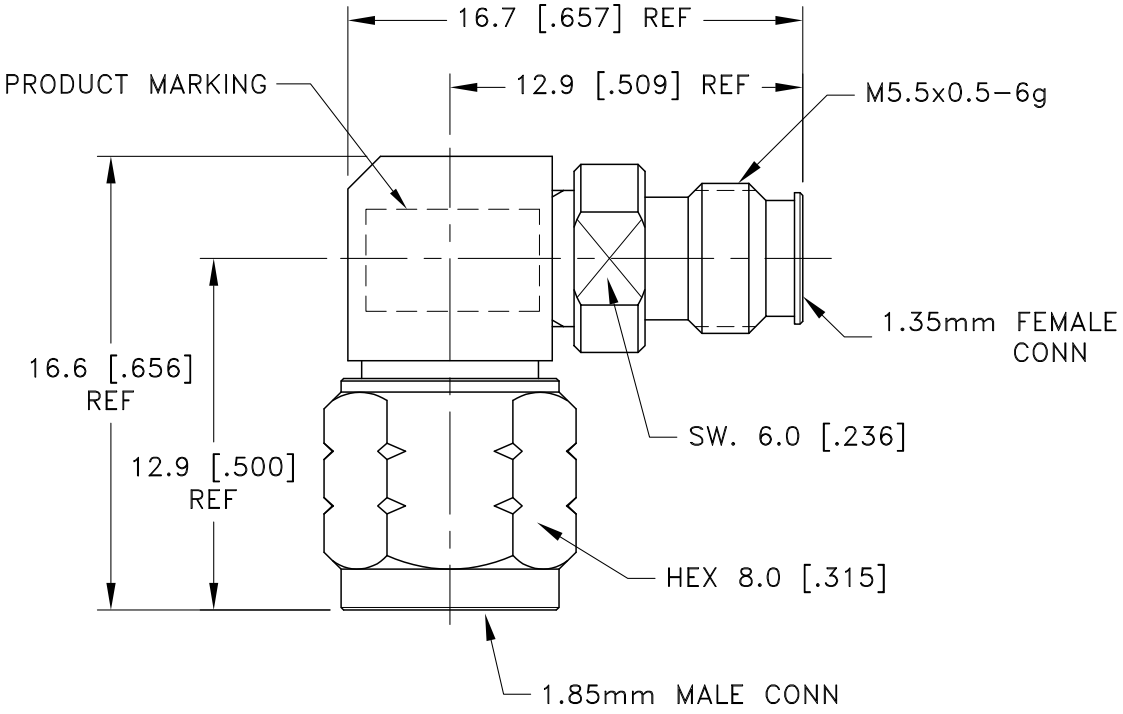
50Ω DC to 67 GHz Right-Angle 1.35 mm-Female to 1.85 mm-Male

## CONNECTOR SPECIFICATIONS

| Description | Connector 1 | Connector 2 |
|---|---|---|
| Connector Type | 1.35 mm-Female | 1.85 mm-Male |
| Orientation | Right-Angle | Straight |

## CASE STYLE DRAWING




Weight: 7.5 grams
Dimensions are in mm [inches]. Tolerances: 1 Pl.± 0.20 mm

**PRODUCT MARKING*:** 135FR-185M+
* Marking may contain other features or characters for internal lot control.

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# Adapter

## 135FR-185M+

50Ω DC to 67 GHz Right-Angle 1.35 mm-Female to 1.85 mm-Male

**ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD** CLICK HERE

| | |
|---|---|
| **Performance Data & Graphs** | Data<br>Graphs<br>S-Parameter (S2P Files) Data Set (.zip file) |
| **Case Style** | DJ3750-3 |
| **RoHS Status** | Compliant |
| **Environmental Ratings** | ENV152 |

NOTES

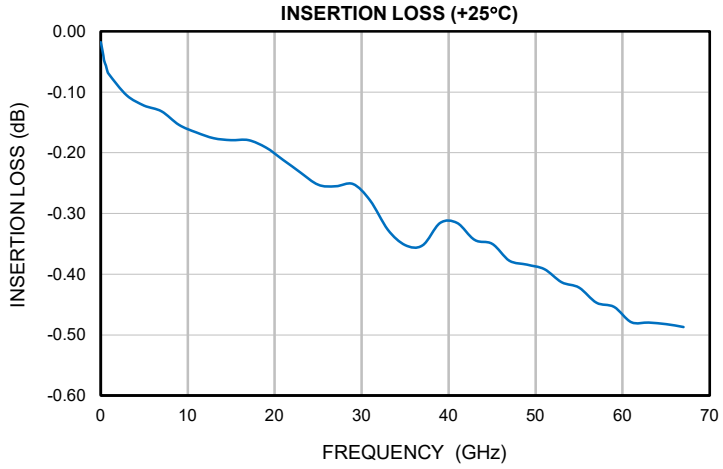
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's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

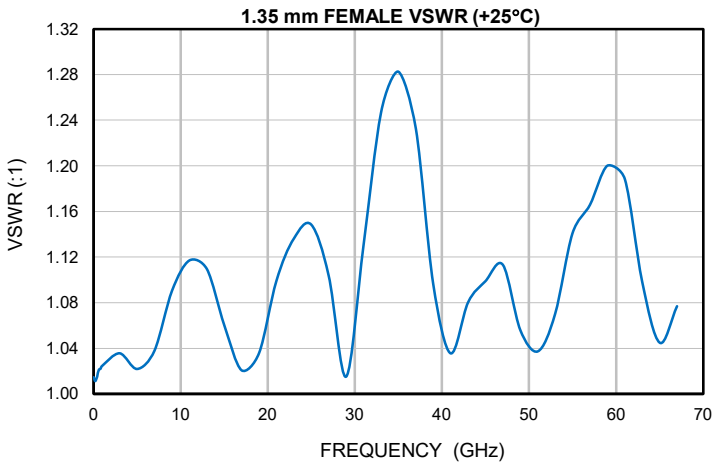
# Adapter 1.35mm-Female to 1.85mm-Male 135FR-185M+

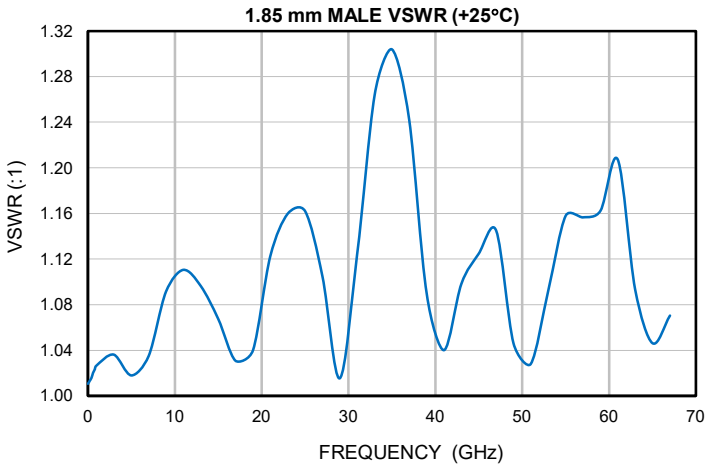
*Typical Performance Data (+25°C)*

| FREQ. | INSERTION LOSS | 1.35mm-FEMALE VSWR | 1.85mm-MALE VSWR |
|---|---|---|---|
| (GHz) | (dB) | (:1) | (:1) |
| 0.01 | 0.02 | 1.01 | 1.01 |
| 0.2 | 0.03 | 1.01 | 1.01 |
| 0.4 | 0.05 | 1.02 | 1.02 |
| 0.6 | 0.06 | 1.02 | 1.02 |
| 0.8 | 0.07 | 1.02 | 1.02 |
| 1.0 | 0.07 | 1.02 | 1.03 |
| 3.0 | 0.11 | 1.04 | 1.04 |
| 5.0 | 0.12 | 1.02 | 1.02 |
| 7.0 | 0.13 | 1.04 | 1.04 |
| 9.0 | 0.15 | 1.09 | 1.09 |
| 11.0 | 0.17 | 1.12 | 1.11 |
| 13.0 | 0.18 | 1.11 | 1.10 |
| 15.0 | 0.18 | 1.06 | 1.07 |
| 17.0 | 0.18 | 1.02 | 1.03 |
| 19.0 | 0.19 | 1.04 | 1.04 |
| 21.0 | 0.21 | 1.10 | 1.12 |
| 23.0 | 0.23 | 1.14 | 1.16 |
| 25.0 | 0.25 | 1.15 | 1.16 |
| 27.0 | 0.26 | 1.10 | 1.10 |
| 29.0 | 0.25 | 1.02 | 1.02 |
| 31.0 | 0.28 | 1.13 | 1.12 |
| 33.0 | 0.33 | 1.25 | 1.26 |
| 35.0 | 0.35 | 1.28 | 1.30 |
| 37.0 | 0.35 | 1.23 | 1.24 |
| 39.0 | 0.32 | 1.10 | 1.09 |
| 41.0 | 0.32 | 1.04 | 1.04 |
| 43.0 | 0.34 | 1.08 | 1.10 |
| 45.0 | 0.35 | 1.10 | 1.12 |
| 47.0 | 0.38 | 1.11 | 1.14 |
| 49.0 | 0.38 | 1.06 | 1.05 |
| 51.0 | 0.39 | 1.04 | 1.03 |
| 53.0 | 0.41 | 1.07 | 1.09 |
| 55.0 | 0.42 | 1.14 | 1.16 |
| 57.0 | 0.45 | 1.17 | 1.16 |
| 59.0 | 0.45 | 1.20 | 1.16 |
| 61.0 | 0.48 | 1.19 | 1.21 |
| 63.0 | 0.48 | 1.10 | 1.09 |
| 65.0 | 0.48 | 1.04 | 1.05 |
| 67.0 | 0.49 | 1.08 | 1.07 |

*Typical Performance Curves*



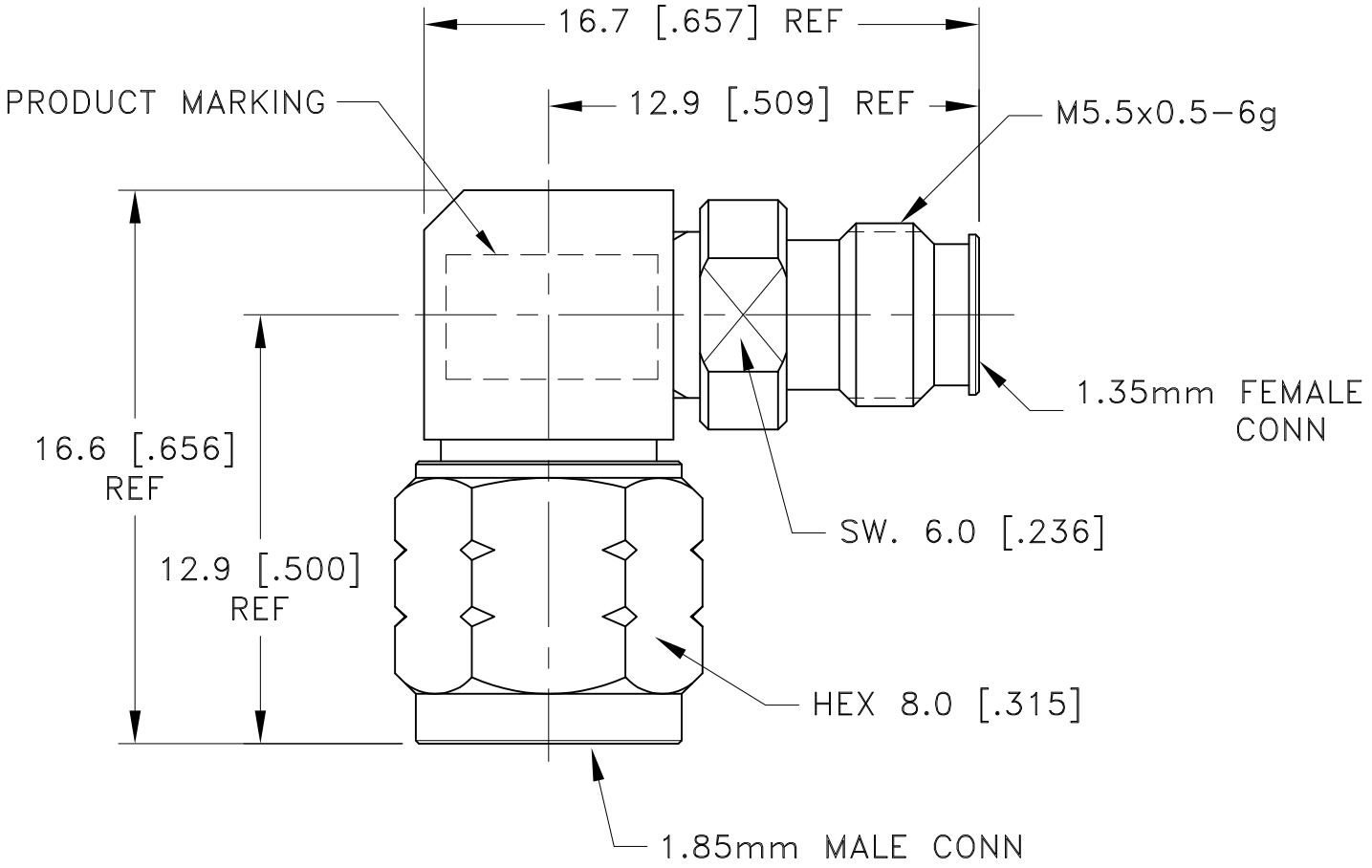



# Case Style DJ

## Outline Dimensions

## DJ3750-3




Weight: 7.5 grams

Dimensions are in mm [inches]. Tolerances: 1 Pl.± 0.20 mm

Notes:

| | |
|---|---|
| Case material: | Stainless steel. |
| Case Finish: | Passivated. |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# Environmental Specifications ENV152

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 +125° C | Individual Model Data Sheet |
| Storage Temperature | -45° to +125° C | Individual Model Data Sheet |
| Thermal Shock | -55° to +125° C, 5cycles, 15 min dwell time | MIL-STD-202, Method 107, Condition B except -55° C instead of -65° C |
| Connector Durability | 500 mating/unmating cycles | MIL-PRF-39012E, PARAGRAPH 4.6.12 |


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