



KEY FEATURES

- Ultra-Wideband, DC to 50 GHz
- Low Insertion Loss, 0.17 dB Typ.
- Excellent VSWR, 1.11:1 Typ.
- Right-Angle Body



Generic photo used for illustration purposes only

PRODUCT OVERVIEW

Mini-Circuits' 185FR-24F+ is a coaxial 1.85 mm Female Right-Angle to 2.4 mm Female adapter supporting a wide range of applications from DC to 50 GHz. This model provides excellent VSWR and low insertion loss versus frequency. The 185FR-24F+ features passivated stainless-steel construction and measures only 0.703" in length. These adapters are used to enable connections between connector types that would otherwise not mate.

ELECTRICAL SPECIFICATIONS¹ AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range	-	DC	-	50	GHz
Insertion Loss	DC-10	-	0.09	0.52	dB
	10-20	-	0.13	0.52	
	20-30	-	0.17	0.52	
	30-40	-	0.22	0.52	
	40-50	-	0.25	0.52	
VSWR	DC-10	-	1.05	1.35	:1
	10-20	-	1.05	1.35	
	20-30	-	1.10	1.35	
	30-40	-	1.15	1.37	
	40-50	-	1.10	1.37	

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

ABSOLUTE MAXIMUM RATINGS²

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.



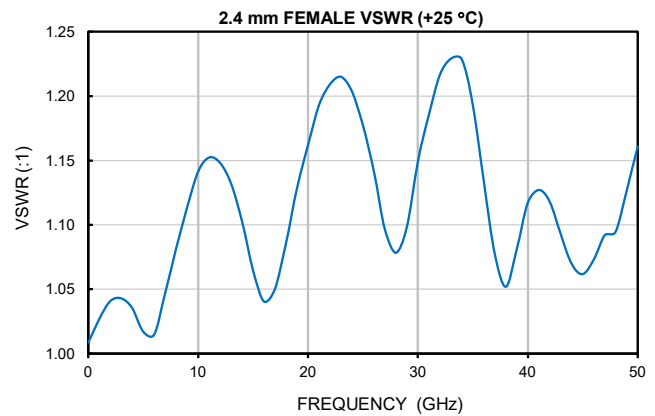
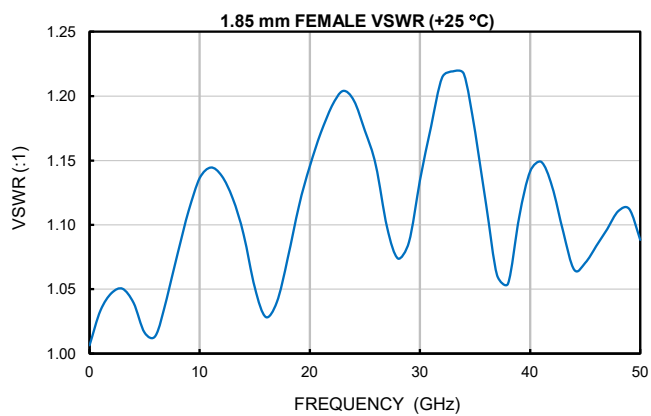
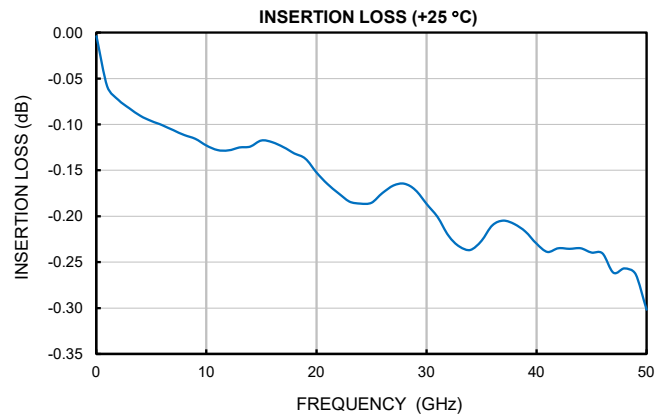
COAXIAL

Adapter

185FR-24F+

50 Ω DC to 50 GHz Right-Angle 1.85 mm-Female to 2.4 mm-Female

TYPICAL PERFORMANCE GRAPHS

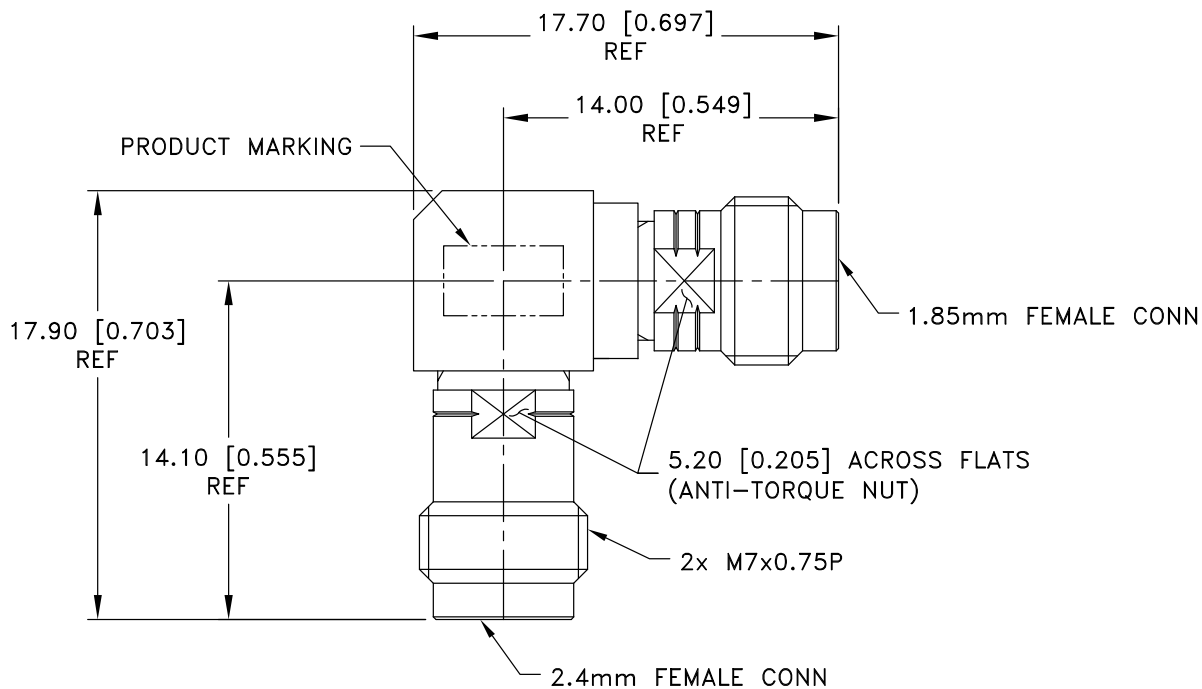




CONNECTOR SPECIFICATIONS

Description	Connector 1	Connector 2
Connector Type	1.85 mm-Female	2.4 mm-Female
Orientation	Right-Angle	Straight

CASE STYLE DRAWING



Weight: 6.7 grams

Dimensions are in mm [inches]. Tolerances: 2 Pl.±0.20 mm

PRODUCT MARKING*: 185FR-24F+

* Marking may contain other features or characters for internal lot control.



Mini-Circuits

COAXIAL

Adapter

185FR-24F+

50Ω DC to 50 GHz Right-Angle 1.85 mm-Female to 2.4 mm-Female

ADDITIONAL DETAILED INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	Data
	Graphs
	S-Parameter (S2P Files) Data Set (.zip file)
Case Style	DJ3734-4
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, 1.85 mm-Female Right-Angle to 2.4 mm-Female

185FR-24F+

Typical Performance Data

FREQ.	INSERTION LOSS	1.85 mm-FEMALE VSWR	2.4 mm-FEMALE VSWR
(GHz)	(dB)	(:1)	(:1)
0	0.00	1.01	1.01
1	0.06	1.03	1.03
2	0.07	1.05	1.04
3	0.08	1.05	1.04
4	0.09	1.04	1.04
5	0.10	1.02	1.02
6	0.10	1.01	1.01
7	0.11	1.04	1.05
8	0.11	1.08	1.08
9	0.12	1.11	1.11
10	0.12	1.14	1.14
11	0.13	1.14	1.15
12	0.13	1.14	1.15
13	0.13	1.12	1.13
14	0.12	1.09	1.10
15	0.12	1.05	1.06
16	0.12	1.03	1.04
17	0.12	1.04	1.05
18	0.13	1.07	1.09
19	0.14	1.11	1.13
20	0.15	1.15	1.16
21	0.16	1.17	1.19
22	0.17	1.19	1.21
23	0.18	1.20	1.21
24	0.19	1.20	1.20
25	0.19	1.17	1.18
26	0.17	1.15	1.14
27	0.17	1.10	1.10
28	0.16	1.07	1.08
29	0.17	1.09	1.10
30	0.19	1.13	1.15
31	0.20	1.18	1.19
32	0.22	1.21	1.22
33	0.23	1.22	1.23
34	0.24	1.22	1.23
35	0.23	1.17	1.19
36	0.21	1.12	1.13
37	0.20	1.06	1.08
38	0.21	1.05	1.05
39	0.22	1.11	1.08
40	0.23	1.14	1.12
41	0.24	1.15	1.13
42	0.23	1.13	1.12
43	0.24	1.09	1.09
44	0.23	1.06	1.07
45	0.24	1.07	1.06
46	0.24	1.08	1.07
47	0.26	1.10	1.09
48	0.26	1.11	1.09
49	0.26	1.11	1.13
50	0.30	1.09	1.16

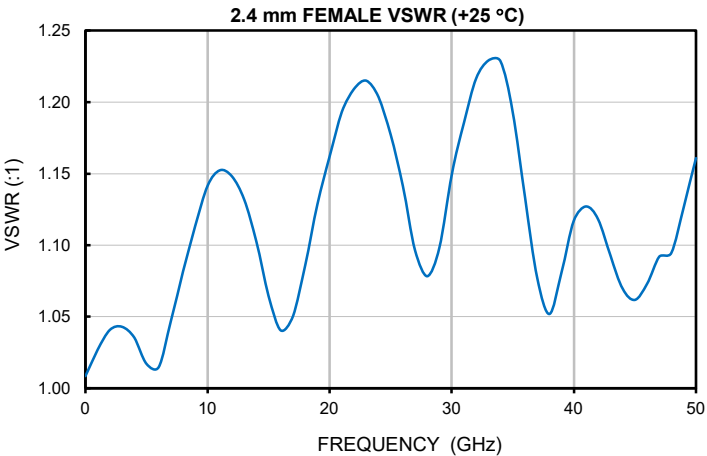
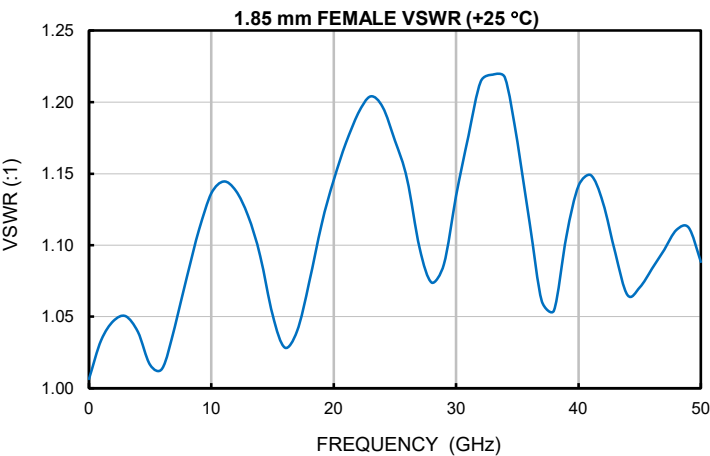
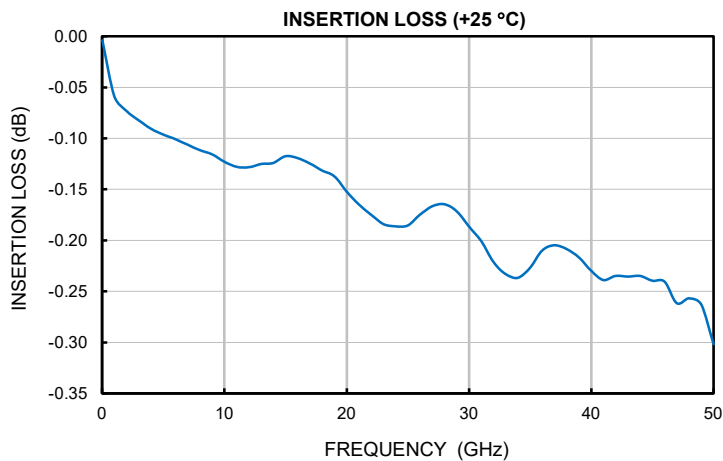


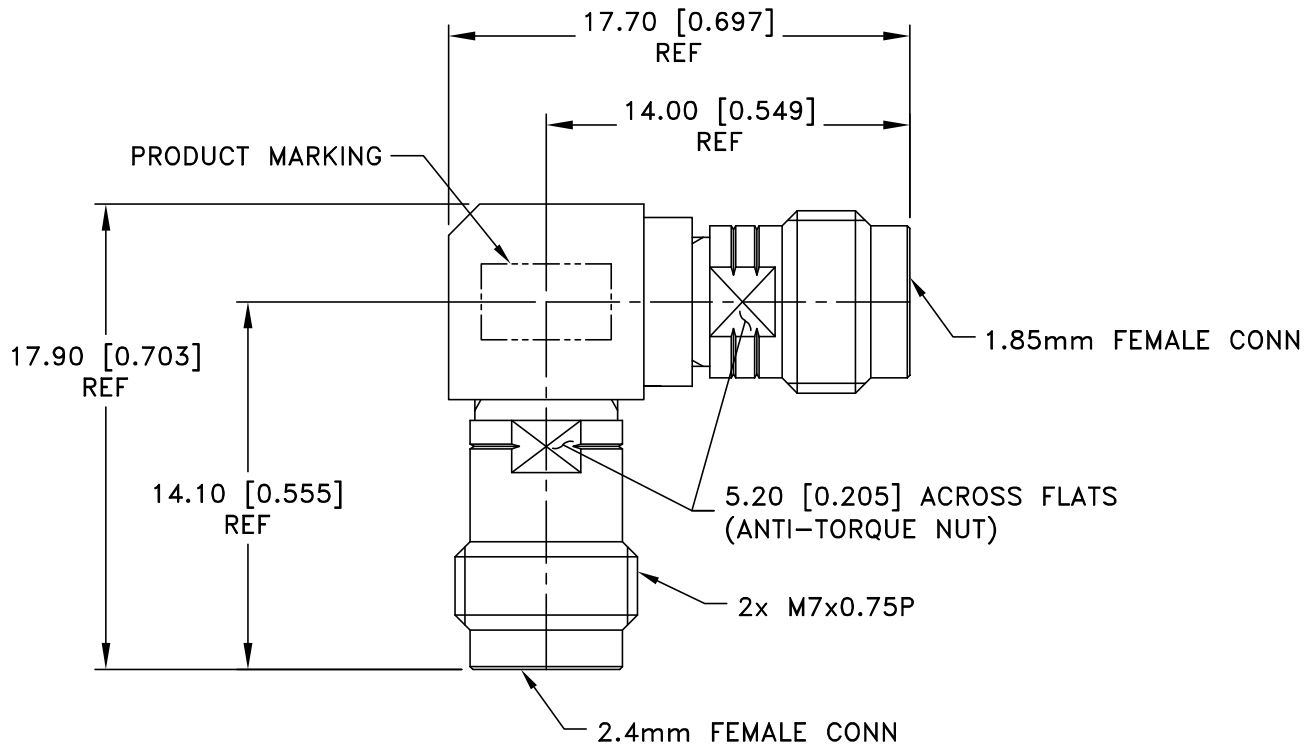
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IF/RF MICROWAVE COMPONENTS

REV. OR
185FR-24F+
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Typical Performance Curves





Weight: 6.7 grams

Dimensions are in mm [inches]. Tolerances: 2 Pl.± 0.20 mm

Notes:

Case material: Stainless steel.
Case Finish: Passivated.

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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 +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