

**THE BIG DEAL**

- Ultra-Wideband, DC-50 GHz
- Flat Response
- Low Insertion Loss, 0.14 dB
- Excellent VSWR, 1.03:1

*Generic photo used for illustration purposes only***APPLICATIONS**

- Interconnection of RF cable and equipment

Model No.	24F-24F+
Case Style	DJ2477
Connectors	2.4 mm-F to 2.4 mm-F

+RoHS Compliant

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

PRODUCT OVERVIEW

Mini-Circuits' 24F-24F+ is a coaxial 2.4 mm-F to 2.4 mm-F adapter supporting a wide range of applications from DC to 50 GHz. This model provides excellent VSWR, low insertion loss, and flat response versus frequency. The 24F-24F+ features passivated stainless steel construction and measures only 0.77" (l) x 0.31" (dia.).

KEY FEATURES

Features	Advantages
Wideband, DC to 50 GHz	Wide frequency range provides application flexibility and makes this model ideal for broadband and multi-band use.
Excellent VSWR, 1.03:1	Provides good matching for 50 Ω systems and minimizes signal reflections across wide frequency range.
Low Insertion Loss, 0.14 dB	Provides excellent signal power transmission from input to output.
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.



COAXIAL

Adapter

24F-24F+

Mini-Circuits

50 Ω DC to 50 GHz 2.4 mm-Female to 2.4 mm-Female

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range	—	DC	—	50	GHz
Insertion Loss	DC - 5	—	0.04	0.4	dB
	5 - 10	—	0.08	0.4	
	10 - 20	—	0.11	0.4	
	20 - 40	—	0.14	0.4	
	40 - 50	—	0.18	0.4	
VSWR	DC - 5	—	1.01	1.15	:1
	5 - 10	—	1.02	1.15	
	10 - 20	—	1.02	1.15	
	20 - 40	—	1.02	1.15	
	40 - 50	—	1.03	1.15	

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.



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Adapter

24F-24F+

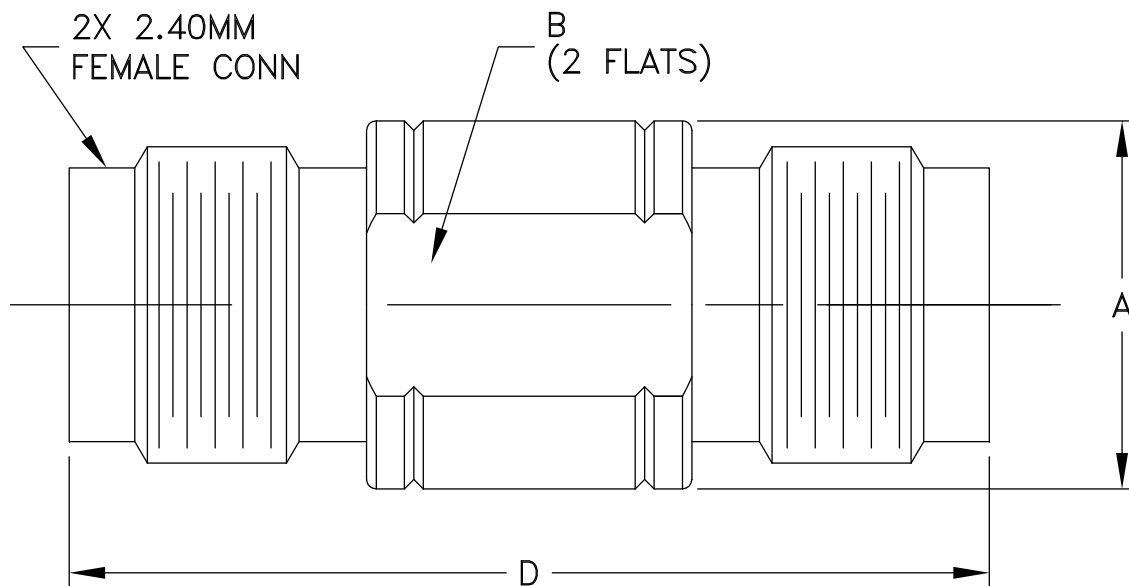
Mini-Circuits

50Ω DC to 50 GHz 2.4 mm-Female to 2.4 mm-Female

COAXIAL CONNECTIONS

Connector 1	2.4 mm-F
Connector 2	2.4 mm-F

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inches mm)

A	B	C	D	E	wt
0.307	0.276	--	0.768	--	grams
7.8	7.0	--	19.5	--	4.0





COAXIAL

Adapter

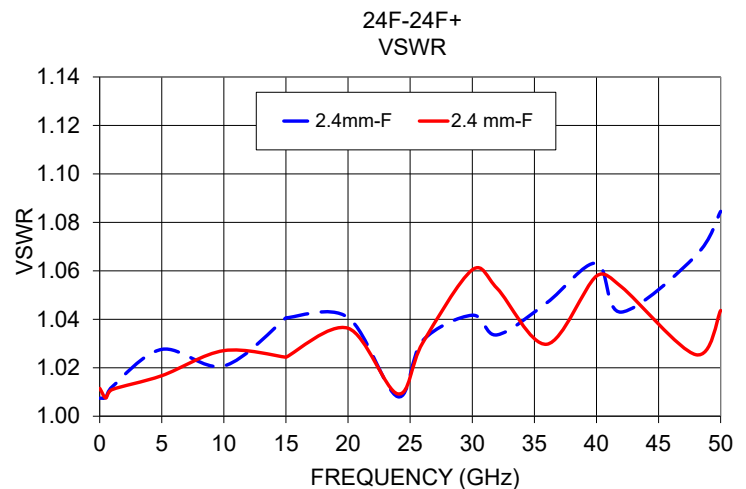
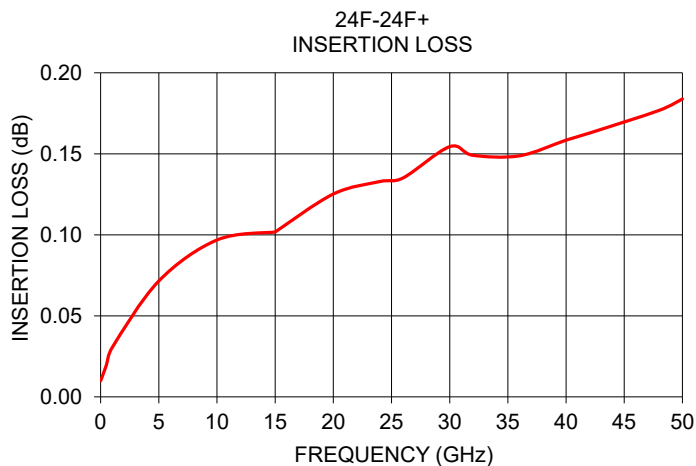
24F-24F+

Mini-Circuits

50Ω DC to 50 GHz 2.4 mm-Female to 2.4 mm-Female

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (GHz)	Insertion Loss (dB)	VSWR (:1)	
		2.4 mm-Female	2.4 mm-Female
0.01	0.010	1.01	1.01
0.5	0.020	1.01	1.01
1.0	0.030	1.01	1.01
5.0	0.071	1.03	1.02
10.0	0.097	1.02	1.03
15.0	0.102	1.04	1.02
15.0	0.102	1.04	1.02
20.0	0.125	1.04	1.04
24.0	0.133	1.01	1.01
26.0	0.135	1.03	1.03
30.0	0.154	1.04	1.06
32.0	0.149	1.03	1.05
36.0	0.149	1.05	1.03
40.0	0.158	1.06	1.06



NOTES

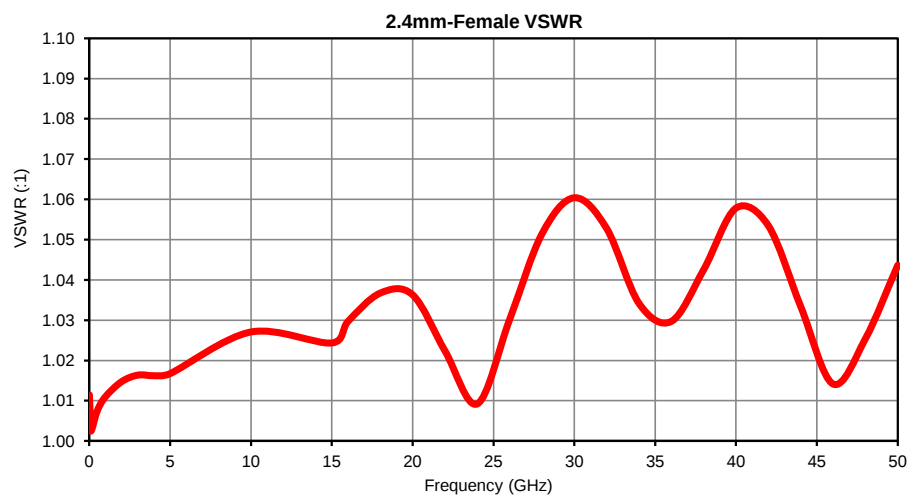
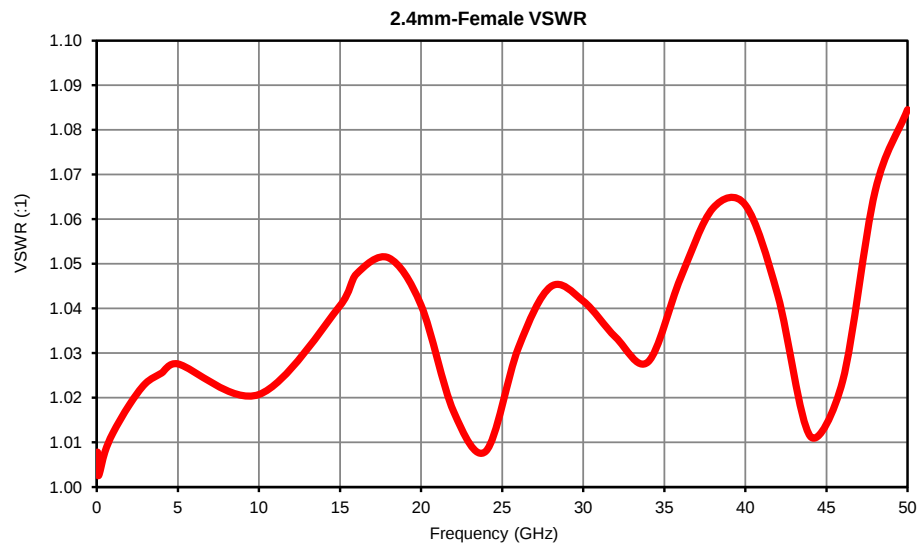
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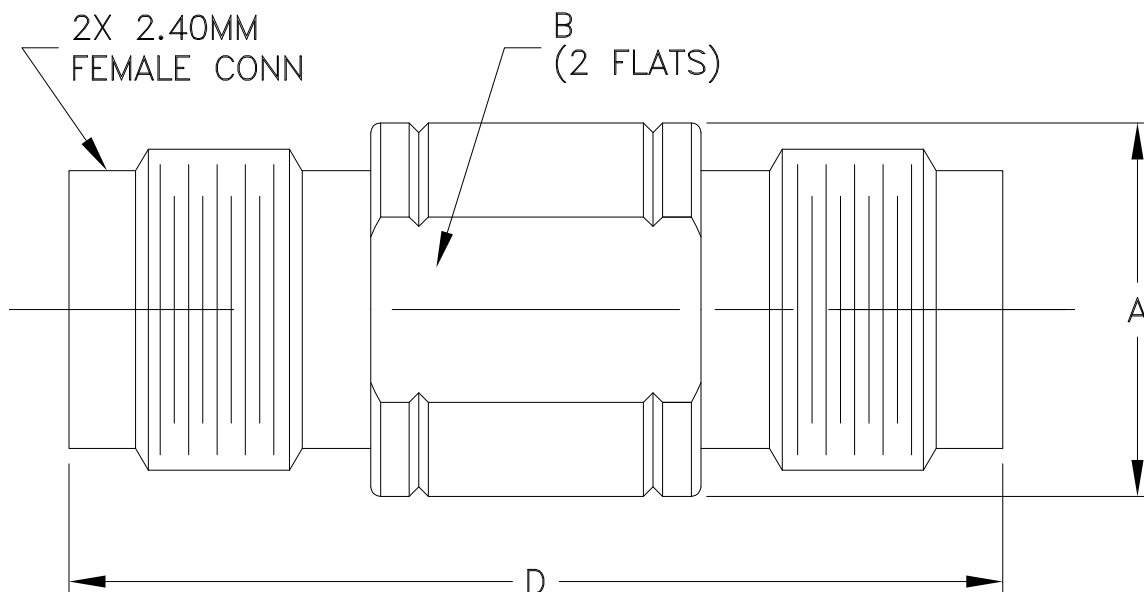
Typical Performance Data

FREQUENCY (GHz)	INSERTION LOSS (dB)	2.4mm-FEMALE VSWR (:1)	2.4mm-FEMALE VSWR (:1)
0.01	0.010	1.01	1.01
0.05	0.020	1.01	1.01
0.10	0.008	1.00	1.00
0.50	0.020	1.01	1.01
1	0.030	1.01	1.01
2	0.044	1.02	1.01
3	0.054	1.02	1.02
4	0.063	1.03	1.02
5	0.071	1.03	1.02
10	0.097	1.02	1.03
15	0.102	1.04	1.02
16	0.108	1.05	1.03
18	0.114	1.05	1.04
20	0.125	1.04	1.04
22	0.136	1.02	1.02
24	0.133	1.01	1.01
26	0.135	1.03	1.03
28	0.145	1.04	1.05
30	0.154	1.04	1.06
32	0.149	1.03	1.05
34	0.146	1.03	1.03
36	0.149	1.05	1.03
38	0.153	1.06	1.04
40	0.158	1.06	1.06
42	0.163	1.04	1.05
44	0.168	1.01	1.03
46	0.169	1.02	1.01
48	0.177	1.07	1.03
50	0.184	1.08	1.04

Typical Performance Curves



Outline Dimensions



CASE#	A	B	C	D	E	WT. GRAM
DJ2477	.307 (7.8)	.276 (7.0)	-- --	.768 (19.5)	-- --	4.0

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

Notes:

1. Case material: Stainless steel.
2. Finish: Passivation.



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



Provides ACTUAL Data Instantly From MINI-CIRCUITS At: 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 or -55° to 85° C or -45° to 100° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 5 cycles	MIL-STD-202, Method 107, Condition B except over -55° to 100°C
Connector Durability	500 mating/unmating cycles	MIL-PRF-39012E, PARAGRAPH 4.6.12
Drop Test	1 meter height, 5 times	