

WAVEGUIDE TO COAX

Adapter

WR22-VFR+

Mini-Circuits

50Ω 33 to 50 GHz

(Right-Angle 2.4mm-F to WR22 UG383/U Round Cover Flange)

THE BIG DEAL

- Q-band frequency range, 33 to 50 GHz
- Excellent VSWR, 1.2:1 typ.
- Low insertion loss, 0.25dB typ.
- Compact design
- UG383/U waveguide cover flange
- 2.4mm-F connector

APPLICATIONS

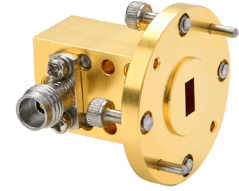
- Instrumentation and Lab use
- Rapid Prototyping
- Waveguide Systems
- Radars
- Communications
- Industrial, Scientific and Medical
- 5G Cellular Mobile

PRODUCT OVERVIEW

Mini-Circuits' WR22-VFR+ is a waveguide to coax adapter operating from 33 to 50 GHz. This product features a WR22 waveguide interface with a precision standard UG383/U-Flange to 2.4 mm-F coaxial connector. The WR22-VFR+ is machined from aluminum alloy 6061-T6 and gold-plated to ensure repeatable RF performance. This adapter has applications in laboratories, Q-Band communications, Radars and more.

KEY FEATURES

Feature	Advantages
Wideband, 33 to 50 GHz	Full operating frequency range of WR22 waveguide
Low insertion loss/excellent VSWR	Key for critical coax to waveguide transition requirements

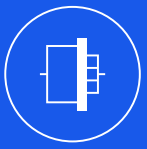


Generic photo used for illustration purposes only

Model No.	WR22-VFR+
Case Style	UW3147-1
Connector 1	2.4mm-F
Connector 2	WR22 UG383/U Cover Flange

+RoHS Compliant

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



ELECTRICAL SPECIFICATIONS AT 25°C

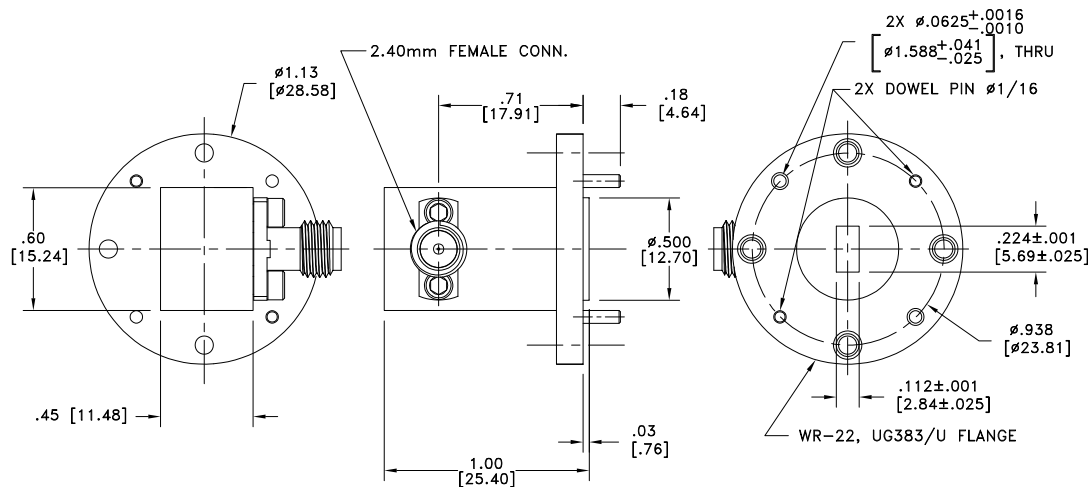
Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		33		50	GHz
Insertion Loss	33 - 50		0.25	0.50	dB
	33 - 36		0.25		
	39 - 45		0.25		
	47 - 50		0.3		
VSWR	33 - 50		1.2	1.45	:1
	33 - 36		1.3		
	39 - 45		1.15		
	47 - 50		1.2		

MAXIMUM RATINGS

Parameter	Ratings
Operating Case Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +100 °C

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

OUTLINE DRAWING

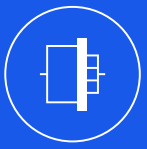


Weight: 25 grams

Dimensions are in inches [mm]. Tolerances: 2 Pl. ±.03; 3 Pl. ±.015

Notes:

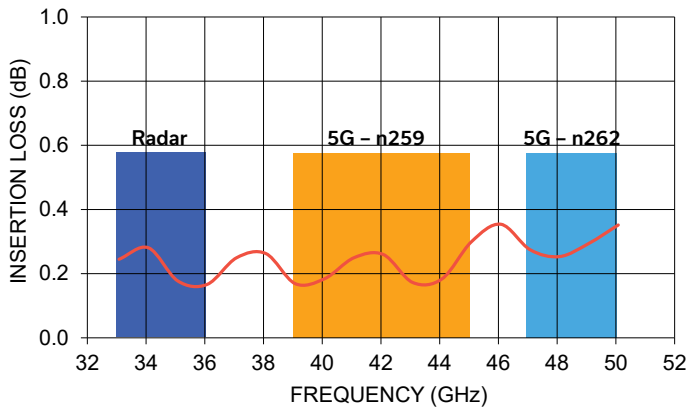
1. Case material: Aluminum alloy.
2. Case Finish: Gold plated.



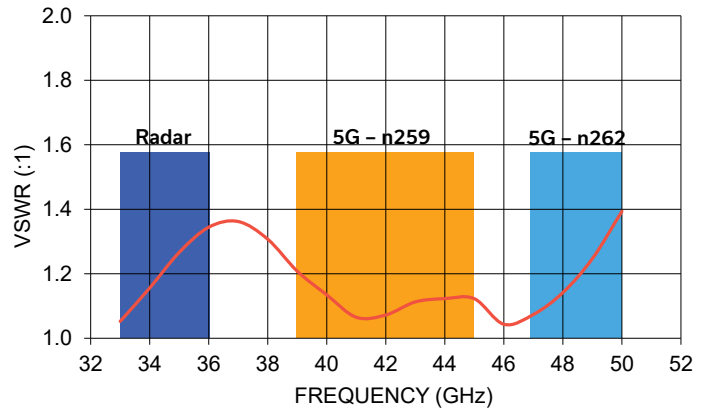
TYPICAL PERFORMANCE DATA

Frequency (GHz)	Insertion Loss (dB)	VSWR (:1)
33	0.25	1.05
34	0.28	1.16
35	0.18	1.27
36	0.17	1.34
37	0.25	1.36
38	0.26	1.31
39	0.17	1.21
40	0.19	1.13
41	0.25	1.07
42	0.26	1.07
43	0.17	1.11
44	0.18	1.12
45	0.30	1.12
46	0.35	1.04
47	0.28	1.07
48	0.25	1.14
49	0.30	1.25
50	0.35	1.39

WR22-VFR+
INSERTION LOSS



WR22-VFR+
VSWR



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

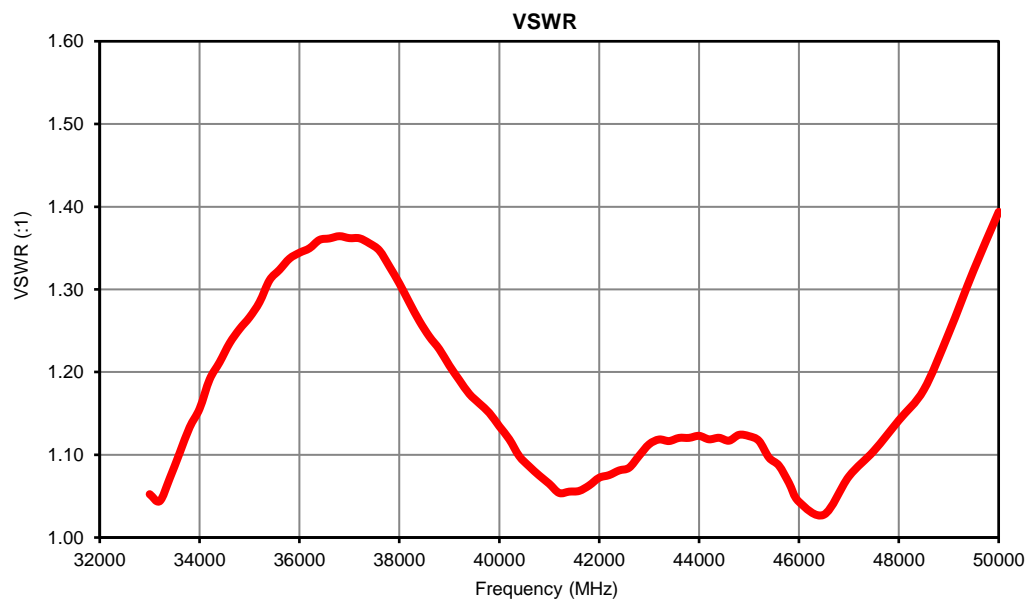
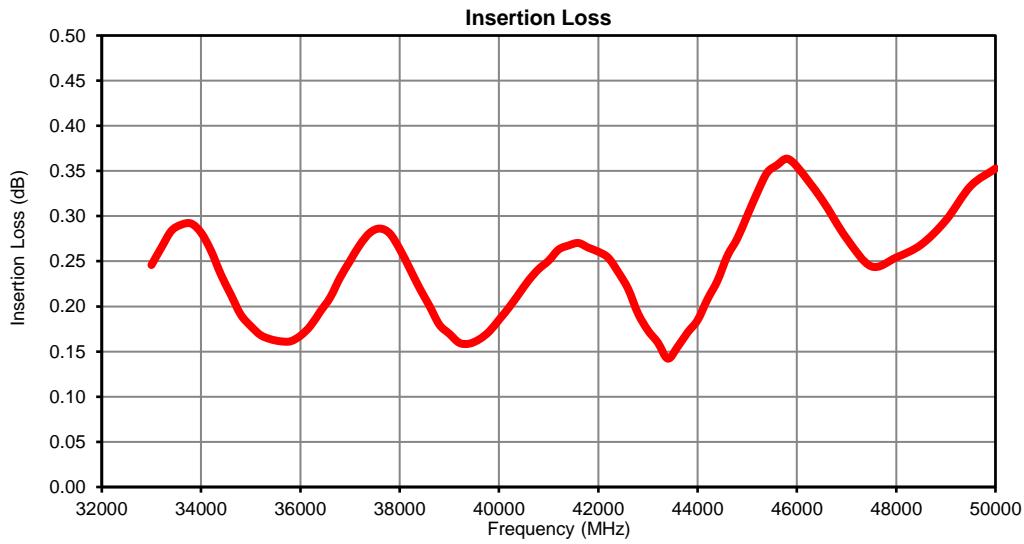
Adapter, Coaxial to Waveguide WR22-VFR+

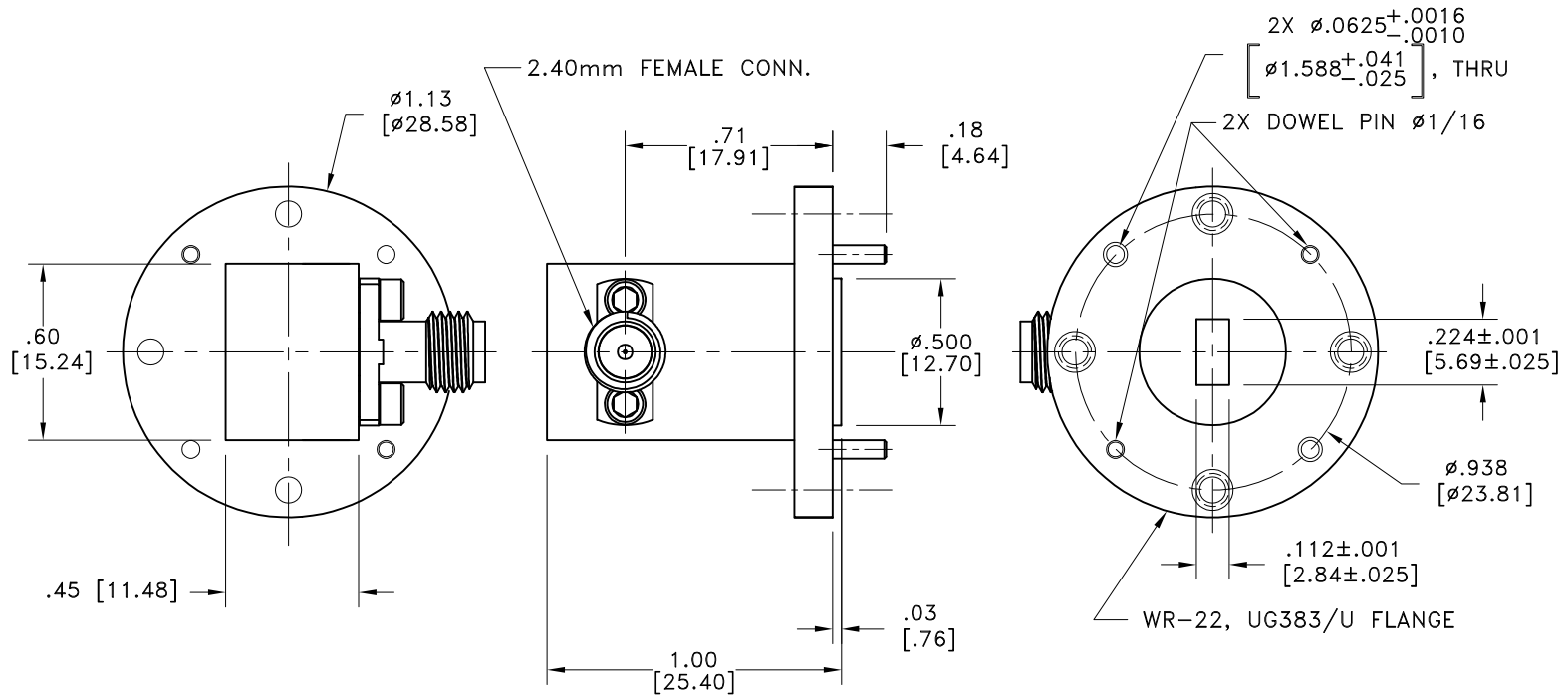
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	VSWR (:1)
33000	0.25	1.05
33200	0.27	1.04
33400	0.28	1.07
33600	0.29	1.10
33800	0.29	1.13
34000	0.28	1.16
34200	0.26	1.19
34400	0.24	1.21
34600	0.21	1.23
34800	0.19	1.25
35000	0.18	1.27
35200	0.17	1.28
35400	0.16	1.31
35600	0.16	1.32
35800	0.16	1.34
36000	0.17	1.34
36200	0.18	1.35
36400	0.19	1.36
36600	0.21	1.36
36800	0.23	1.36
37000	0.25	1.36
37200	0.27	1.36
37400	0.28	1.36
37600	0.29	1.35
37800	0.28	1.33
38000	0.26	1.31
38200	0.24	1.28
38400	0.22	1.26
38600	0.20	1.24
38800	0.18	1.23
39000	0.17	1.21
39200	0.16	1.19
39400	0.16	1.17
39600	0.16	1.16
39800	0.17	1.15
40000	0.19	1.13
40200	0.20	1.12
40400	0.21	1.10
40600	0.23	1.09
40800	0.24	1.07
41000	0.25	1.07
41200	0.26	1.05
41400	0.27	1.06
41600	0.27	1.06
41800	0.27	1.06
42000	0.26	1.07
42200	0.25	1.08
42400	0.24	1.08
42600	0.22	1.08
42800	0.19	1.10
43000	0.17	1.11
43200	0.16	1.12
43400	0.14	1.12
43600	0.16	1.12
43800	0.17	1.12
44000	0.18	1.12
44200	0.21	1.12
44400	0.23	1.12
44600	0.26	1.12
44800	0.28	1.12
45000	0.30	1.12
45200	0.33	1.12
45400	0.35	1.10
45600	0.36	1.09
45800	0.36	1.07
46000	0.35	1.04
46500	0.32	1.03
47000	0.28	1.07
47500	0.24	1.10
48000	0.25	1.14
48500	0.27	1.18
49000	0.30	1.25
49500	0.33	1.32
50000	0.35	1.39



Typical Performance Curves





Weight: 25 grams

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

Notes:

1. Case material: Aluminum alloy.
2. Case Finish: Gold plated.



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The Design Engineers Search Engine 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	-40° to 85° 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