

**KEY FEATURES**

- Full E-band frequency band, 60-90 GHz
- Low Insertion Loss, 0.5 dB Typ.
- Excellent VSWR, 1.2:1 Typ.
- Precision UG387/U anti-cocking waveguide flange
- 1.0 mm Female connector

*Generic photo used for illustration purposes only***HANDLING INSTRUCTIONS**

1.0 mm connectors require specific handling and torque values. See Mini-Circuits Application Note AN-71-001 for detail.

**PRODUCT OVERVIEW**

Mini-Circuits' WR12-10R+ is a waveguide-to-coax adapter operating from 60 to 90 GHz (E-band). This product features a WR12 waveguide interface with a precision standard UG387/U anti-cocking flange to 1.0 mm-Female coaxial connector. The WR12-10+ features aluminum alloy construction and a gold-plated finish to ensure repeatable RF performance. This adapter has applications in R&D, production, over-the-air (OTA) mmWave test laboratories as well as in communication and SATCOM systems. Mounting screws are included with product purchase.

**ELECTRICAL SPECIFICATIONS AT +25°C**

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range	-	60	-	90	GHz
Insertion Loss	60-70	-	0.5	1.2	dB
	70-80	-	0.5	1.2	
	80-90	-	0.6	1.2	
VSWR	60-70	-	1.1	1.7	:1
	70-80	-	1.2	1.7	
	80-90	-	1.3	1.7	

**ABSOLUTE MAXIMUM RATINGS<sup>1</sup>**

Operating Case Temperature	+10° C to +40° C
Storage Temperature	-55° C to +100° C

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



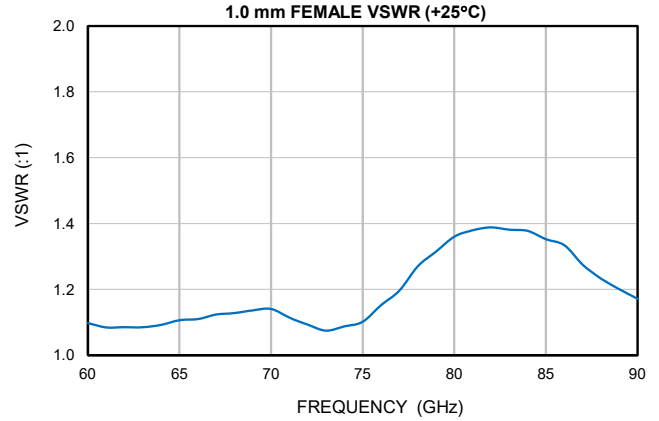
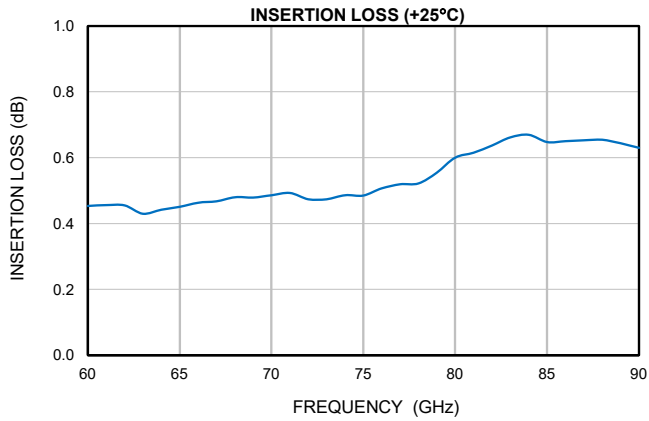
WAVEGUIDE TO COAX

# Adapter

**WR12-10+**

50Ω 60 to 90 GHz 1.0 mm Female to WR12 UG387/U Flange

## TYPICAL PERFORMANCE GRAPHS



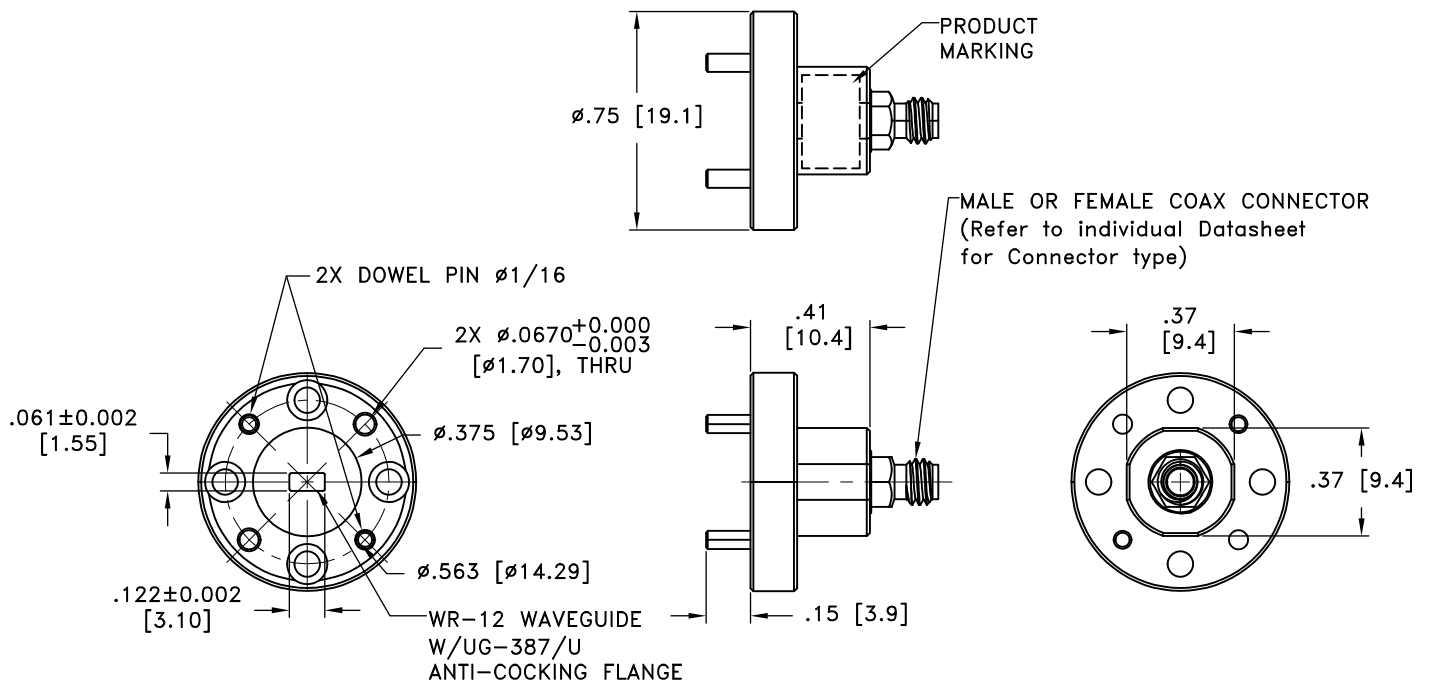


# Adapter

### CONNECTOR SPECIFICATIONS

Description	Connector 1	Connector 2
Connector Type	WR12 UG387/U Flange	1.0 mm Female
Orientation	Straight	Straight

### CASE STYLE DRAWING



Weight: 5.7 grams

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

### PRODUCT MARKING\*: WR12-10+

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



WAVEGUIDE TO COAX

# Adapter

## WR12-10+

Mini-Circuits

50Ω 60 to 90 GHz 1.0 mm Female to WR12 UG387/U Flange

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD

[CLICK HERE](#)

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	UW3765-1
RoHS Status	Compliant
Environmental Ratings	ENV145

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-Circuits' 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](http://www.minicircuits.com/terms/viewterm.html)



# Waveguide WR12 UG387/U to 1.0mm-F

# WR12-10+

Typical Performance Data (+25°C)

FREQ.	INSERTION LOSS	1.0mm-FEMALE VSWR
(GHz)	(dB)	(:1)
60	-0.45	1.10
61	-0.46	1.08
62	-0.46	1.09
63	-0.43	1.08
64	-0.44	1.09
65	-0.45	1.11
66	-0.46	1.11
67	-0.47	1.12
68	-0.48	1.13
69	-0.48	1.14
70	-0.49	1.14
71	-0.49	1.11
72	-0.47	1.09
73	-0.47	1.07
74	-0.49	1.09
75	-0.49	1.10
76	-0.51	1.15
77	-0.52	1.20
78	-0.52	1.27
79	-0.55	1.31
80	-0.60	1.36
81	-0.61	1.38
82	-0.64	1.39
83	-0.66	1.38
84	-0.67	1.38
85	-0.65	1.35
86	-0.65	1.33
87	-0.65	1.28
88	-0.65	1.23
89	-0.64	1.20
90	-0.63	1.17



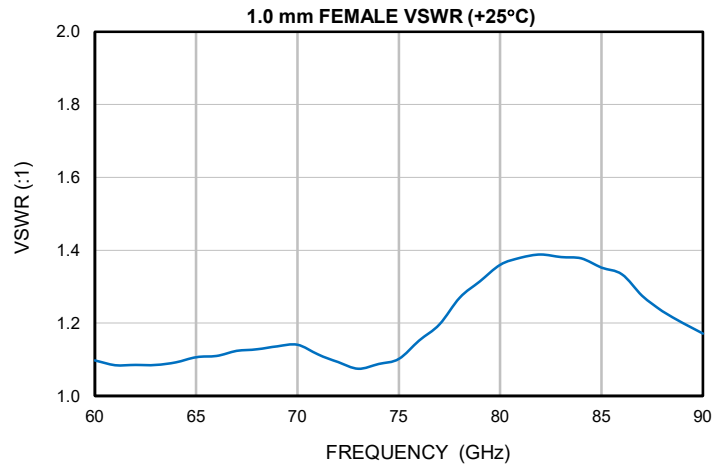
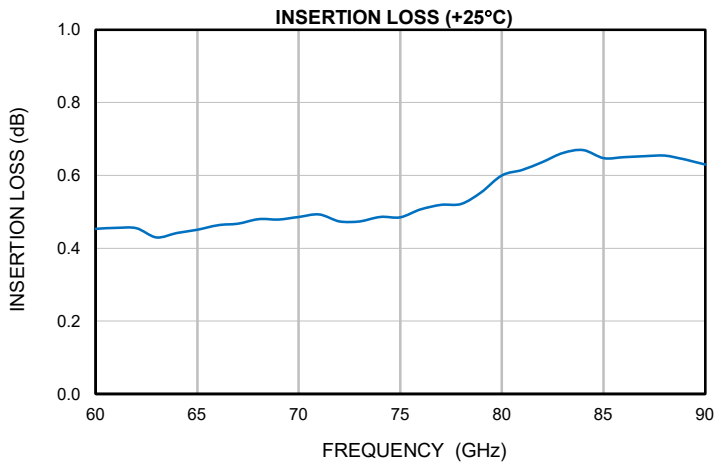
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

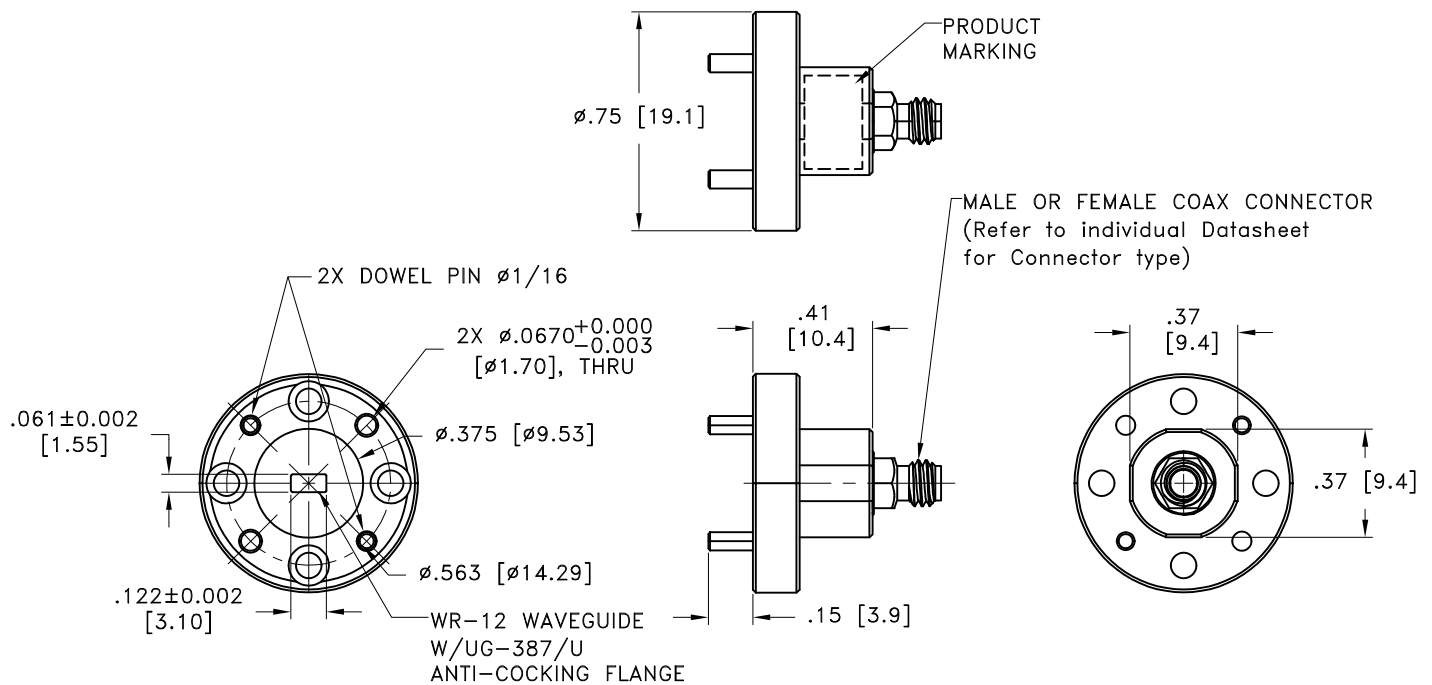


The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)

IF/RF MICROWAVE COMPONENTS

## Typical Performance Curves





Weight: 5.7 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.

**Mini-Circuits®**  
ISO 9001 ISO 14001 CERTIFIED

ALL NEW  
minicircuits.com

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



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://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	10° to 40° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet