



Mini-Circuits

WAVEGUIDE TO COAX

# Adapter

**WR22-VFR+**

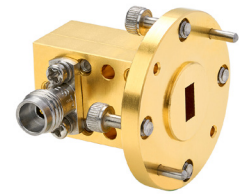
50Ω 33 to 50 GHz Right-Angle 2.4mm-F to WR22 UG383/U Round Cover Flange

## THE BIG DEAL

- Q-band Frequency Range, 33 to 50 GHz
- Excellent VSWR, 1.2:1 typ.
- Low Insertion Loss, 0.25 dB 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



Generic photo used for illustration purposes only

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

### +RoHS Compliant

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

## 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 |





## ELECTRICAL SPECIFICATIONS AT +25°C

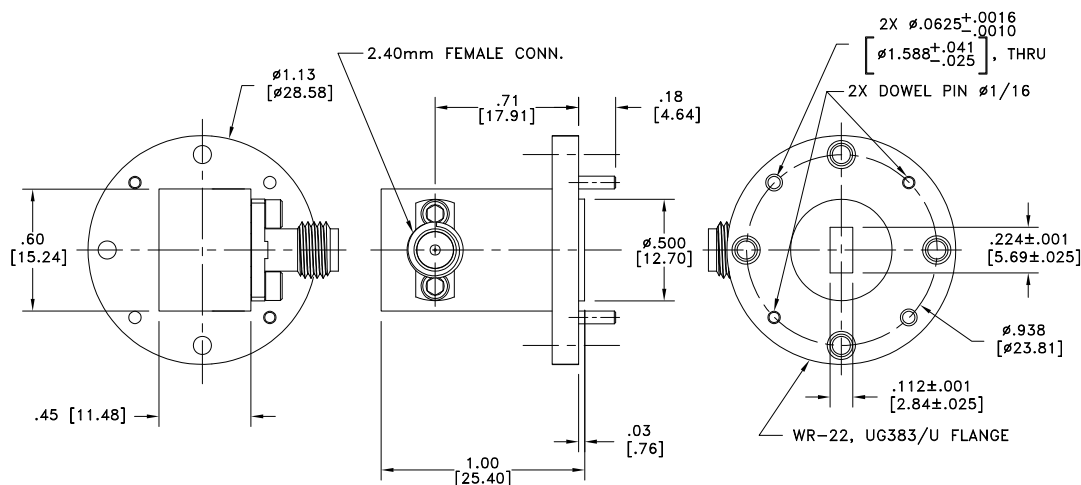
| Parameter       | Condition (GHz) | Min. | Typ. | Max. | Units |
|-----------------|-----------------|------|------|------|-------|
| Frequency Range |                 | 33   |      | 50   | GHz   |
| Insertion Loss  | 33 - 50         |      | 0.25 | 0.50 | dB    |
|                 | 33 - 36         |      | 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  |      |       |

## ABSOLUTE 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.  $\pm .03$ ; 3 Pl.  $\pm .015$



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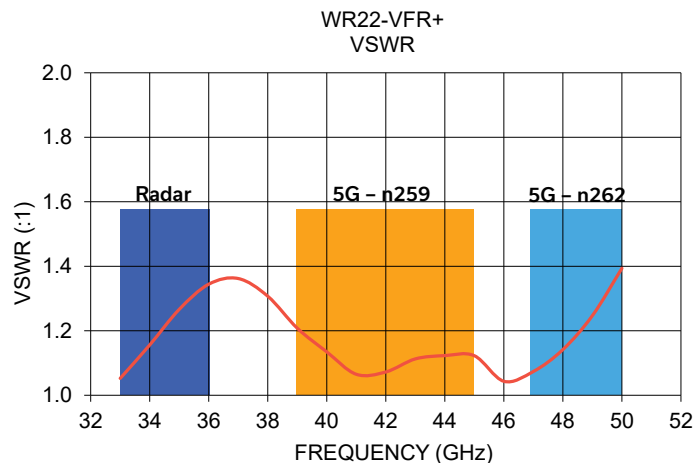
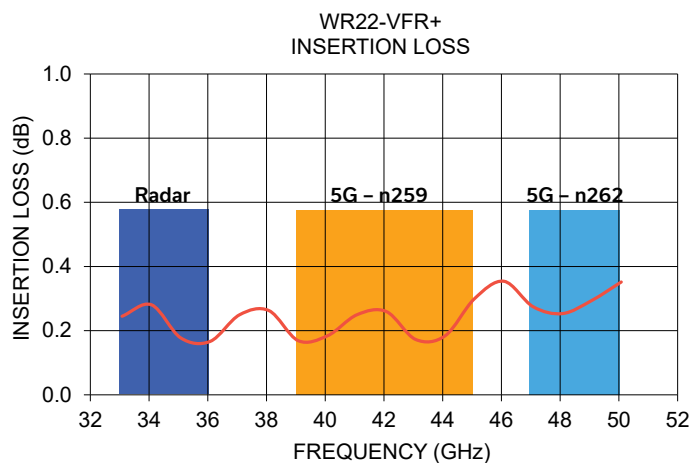
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## TYPICAL PERFORMANCE DATA

| 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      |



- 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](http://www.minicircuits.com/MCLStore/terms.jsp)

