WR51 Waveguide Circulator
15 – 22GHz

Please refer to the mechanical drawing for dimensions.
Picture is only or illustration purpose only.

Features

- Wide band operation 15-22GHz
- High isolation within operational band
- Low Insertion loss
- Stable performance over temperature
-

Typical Applications

- Aerospace and military applications
- LMDS multi-carrier operation

Electrical Specifications, T_A=25 ℃

Parameter	Min.	Typ.	Max.	Units
Frequency Range	15~22			GHz
Insertion Loss			0.5	dB
Reverse Isolation	20			dB
VSWR			1.25	:1
Forward Power (CW)			50	W
Rotation	Clockwise (Standard) Counter Clockwise (upon request)			
Flange Type	COM'L			
	1. U.S. MIL and commercial flange dimensions differ from IEC flanges. 2. English and metric hole sizes may differ slightly.			
Finish	Conductive Oxide (Not Painted)			
Case Material	Aluminum alloy			

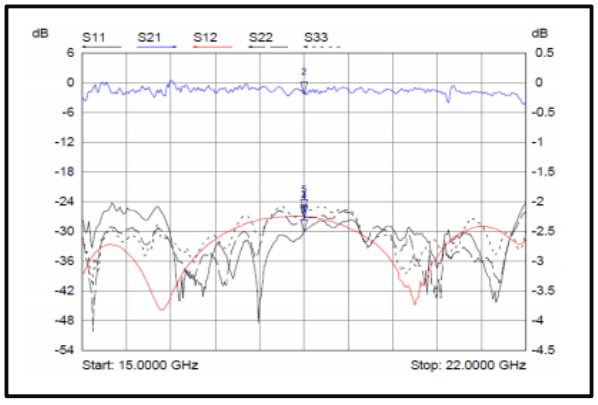
Note 1: Units which have a narrower frequency bandwidth can achieve higher isolation & lower insertion loss
Bandwidth (5 ~10) % x Center Frequency (Isolation >24dB)
Bandwidth (20~30) % x Center Frequency (Isolation >23dB)
Bandwidth (40~60) % x Center Frequency (Isolation >21dB)
Ask manufacturer for details

WR51 Waveguide Circulator 15 – 22GHz

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-20℃~+60℃
Storage Temperature		-40℃~+85℃
Thermal Shock		1 Hour@ -45℃ → 1 Hour @ +85℃ (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85℃ for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude		Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

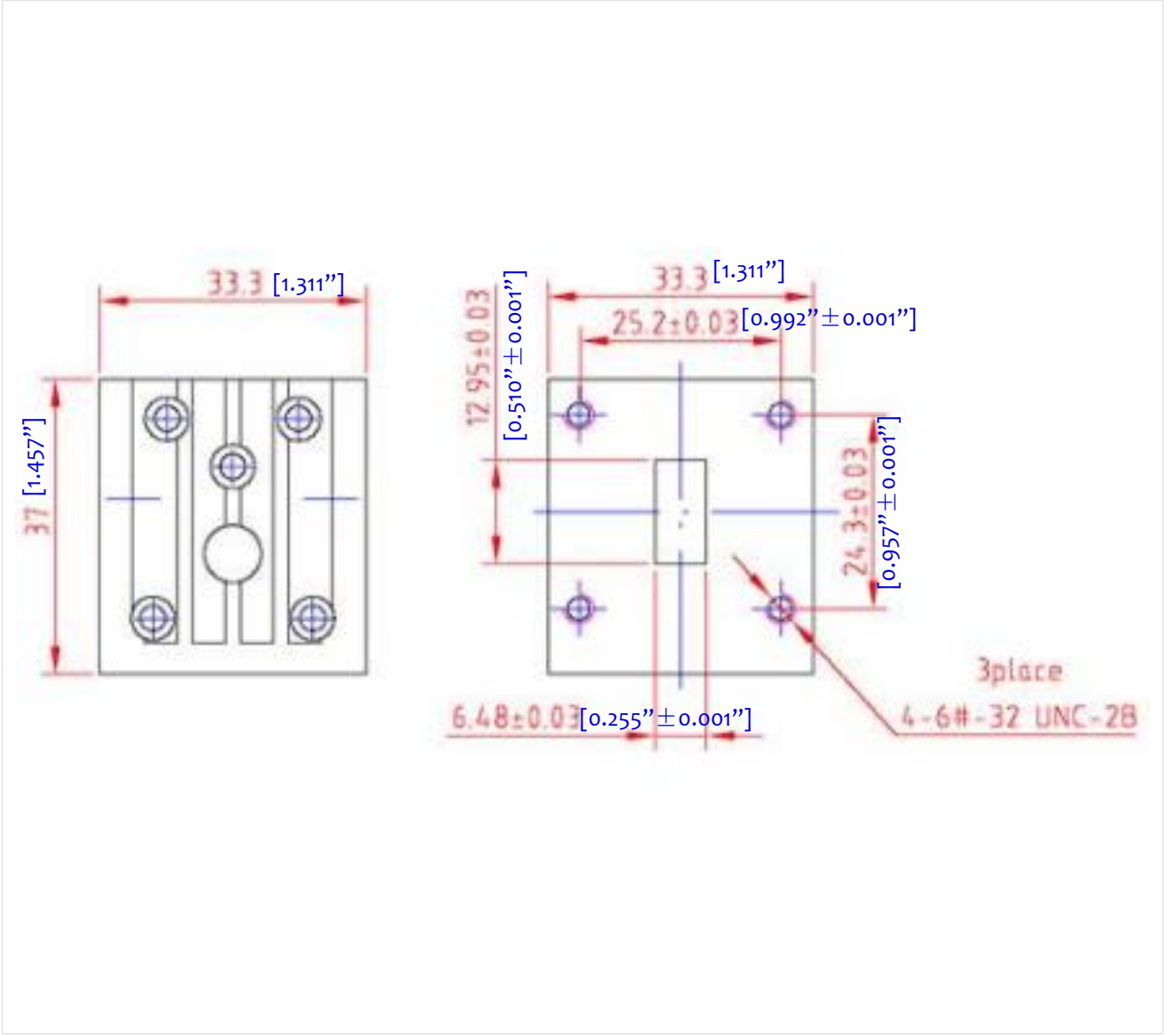
Typical Performance Plots



Mkr	Trace	X-Axis	Value
1	S11	18.5000 GHz	-30.14 dB
2	S21	18.5000 GHz	-0.19 dB
3	S12	18.5000 GHz	-27.10 dB
4	S22	18.5000 GHz	-27.38 dB
5	S33	18.5000 GHz	-26.03 dB

Outline Drawing:

All Dimensions in mm [inches]



Important Notice

The information contained herein is believed to be reliable. RF-Lambda makes no warranties regarding the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for any of the information contained herein. RF-Lambda assumes no responsibility or liability whatsoever for the use of the information contained herein. The information contained herein is provided "AS IS, WHERE IS" and with all faults, and the entire risk associated with such information is entirely with the user. All information contained herein is subject to change without notice. Customers should obtain and verify the latest relevant information before placing orders for RF-Lambda products. The information contained herein or any use of such information does not grant, explicitly or implicitly, to any party any patent rights, licenses, or any other intellectual property rights, whether with regard to such information itself or anything described by such information.

RF-Lambda products are not warranted or authorized for use as critical components in medical, life-saving, or life sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death.