



WR51 Waveguide Circulator 15 – 22GHz



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, $T_A=25\text{ }^\circ\text{C}$

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)			
Input / Output Connectors	UBR 180 COVER Flange 4 Holes Flat			
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

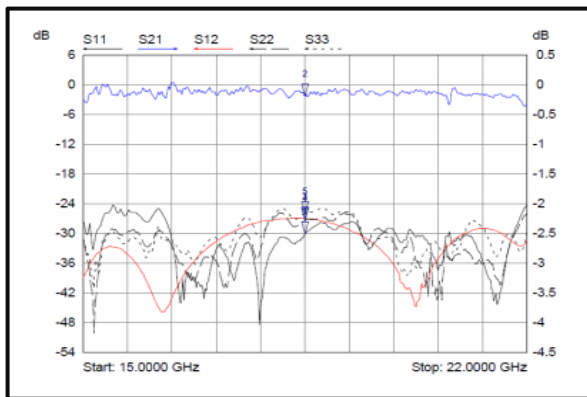
WR51 Waveguide Circulator 15 – 22GHz 50W



Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-20°C~+60°C
Storage Temperature		-40°C~+85°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C 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



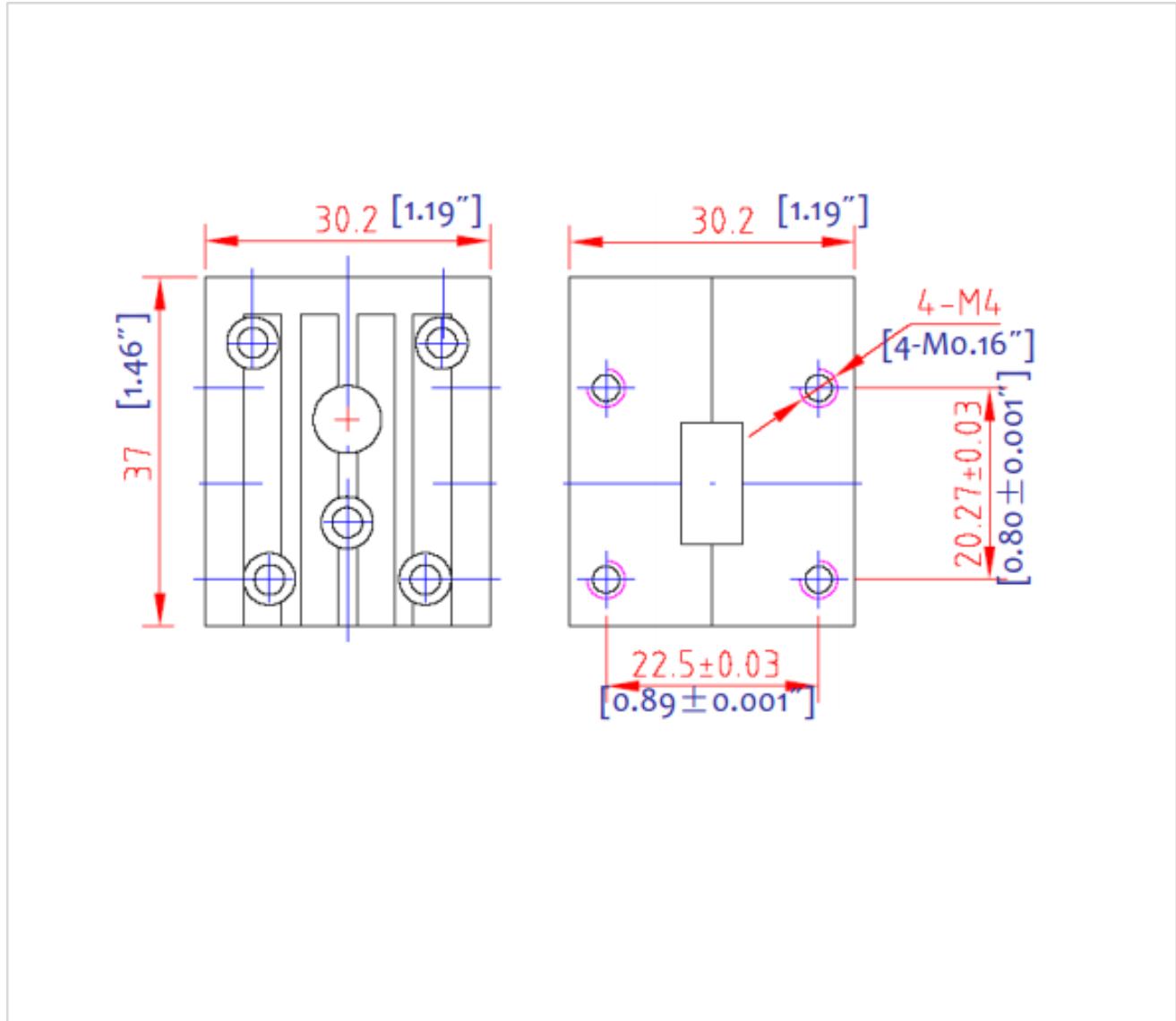
Mkr	Trace	X-Axis	Value
1 ▾	S11	18.5000 GHz	-30.14 dB
2 ▾	S21	18.5000 GHz	-0.19 dB
3 ▾	S12	18.5000 GHz	-27.10 dB
4 ▾	S22	18.5000 GHz	-27.38 dB
5 ▾	S33	18.5000 GHz	-26.03 dB

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Outline Drawing:

All Dimensions in mm [inches]



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