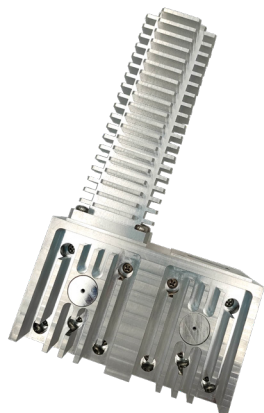


300W WR90 Waveguide Circulator 8.9GHz-9.5GHz



Product Description

The RFWC90E is a waveguide circulator with a frequency range of 8.9 to 9.5GHz.

The circulator has a typical isolation of 40dB. The maximum insertion loss is 0.5dB.

The circulator's interface is WR90.

Features

- High power handling up to 300W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss
- Stable performance over temperature

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications (T_A=+25°C)

Parameter		Min.	Typ.	Max.	Units
Frequency Range			8.9-9.5		GHz
Insertion Loss	Port 1 -> Port 2		0.35	0.5	dB
	Port 2 -> Port 3		0.2	0.3	dB
Isolation	Port 2 -> Port 1	40	42		dB
	Port 3 -> Port 2	23	23.5		dB
	Port 3 -> Port 1	23	24		dB
	Port 1 -> Port 3	23	24		dB
VSWR				1.15	:1
Forward Handling	For circulator	> 300W CW, 60kW pulse			W
	For load	> 100W CW, 20kW pulse			W
Weight		2.1 Max.			lbs.
Rotation		Clockwise (Standard) Counter Clockwise (upon request)			
Interface		WR90			
Flange Type		UG39/U			

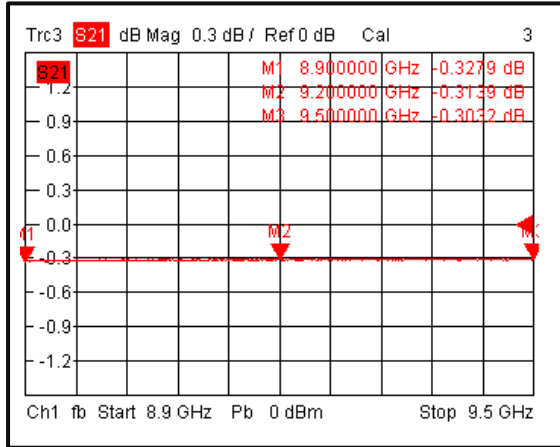
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-20°C to +50°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
*Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	/
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 (For Hermetically Sealed Units)

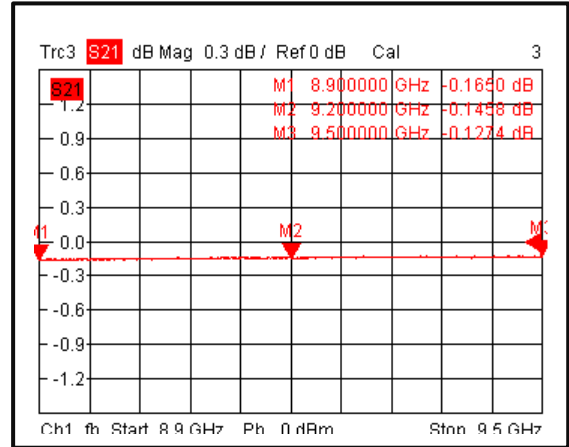
*For vibration testing details please see additional information section.

Typical Performance Plots

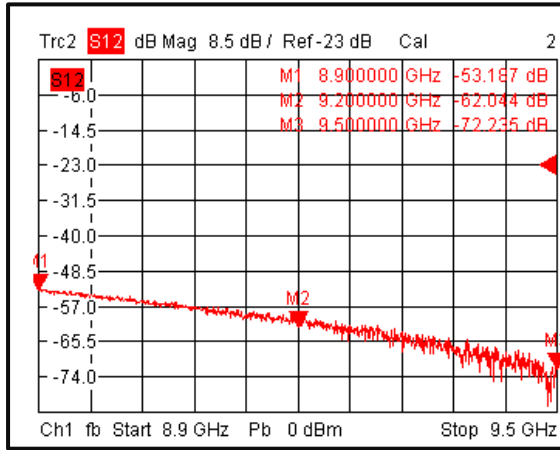
Insertion Loss (Port 1-Port 2)



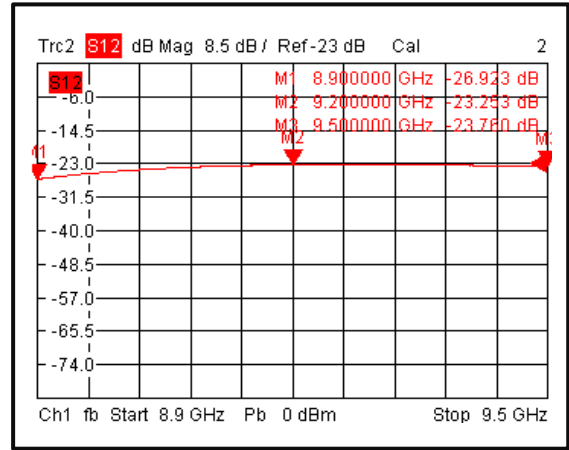
Insertion Loss (Port 2-Port 3)



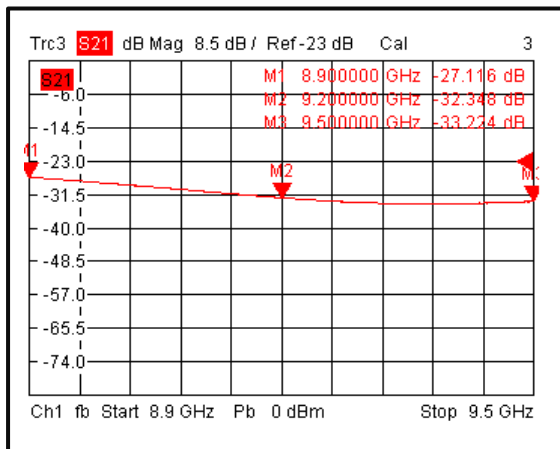
Isolation (Port 2-Port 1)



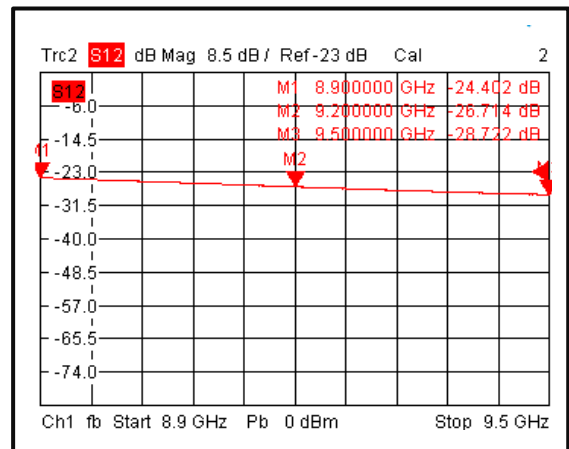
Isolation (Port 3-Port 2)



Isolation (Port 3-Port 1)

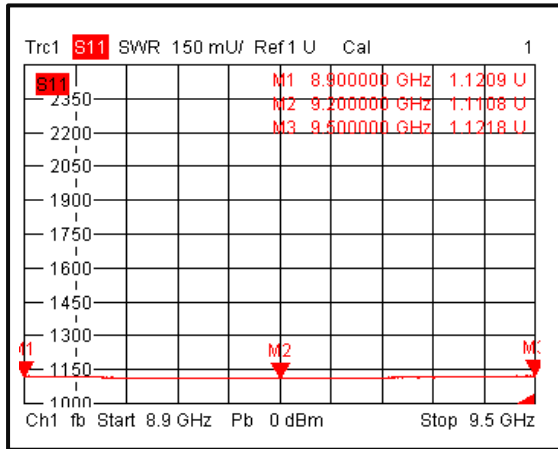


Isolation (Port 1-Port 3)

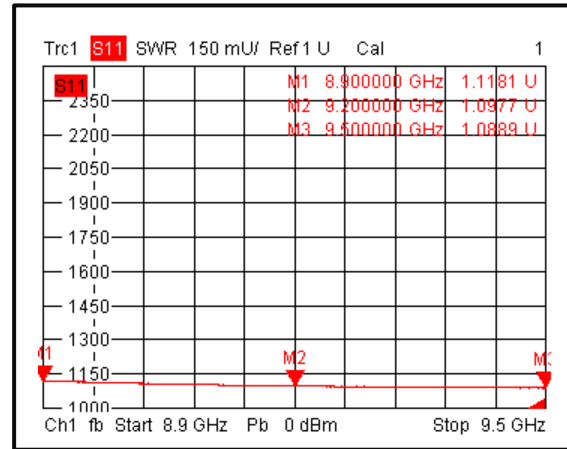


Typical Performance Plots

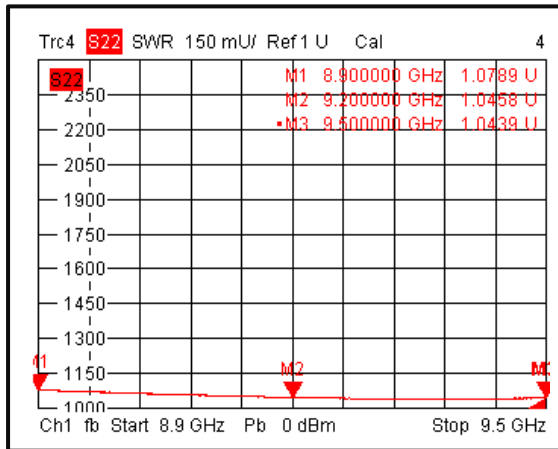
VSWR 1



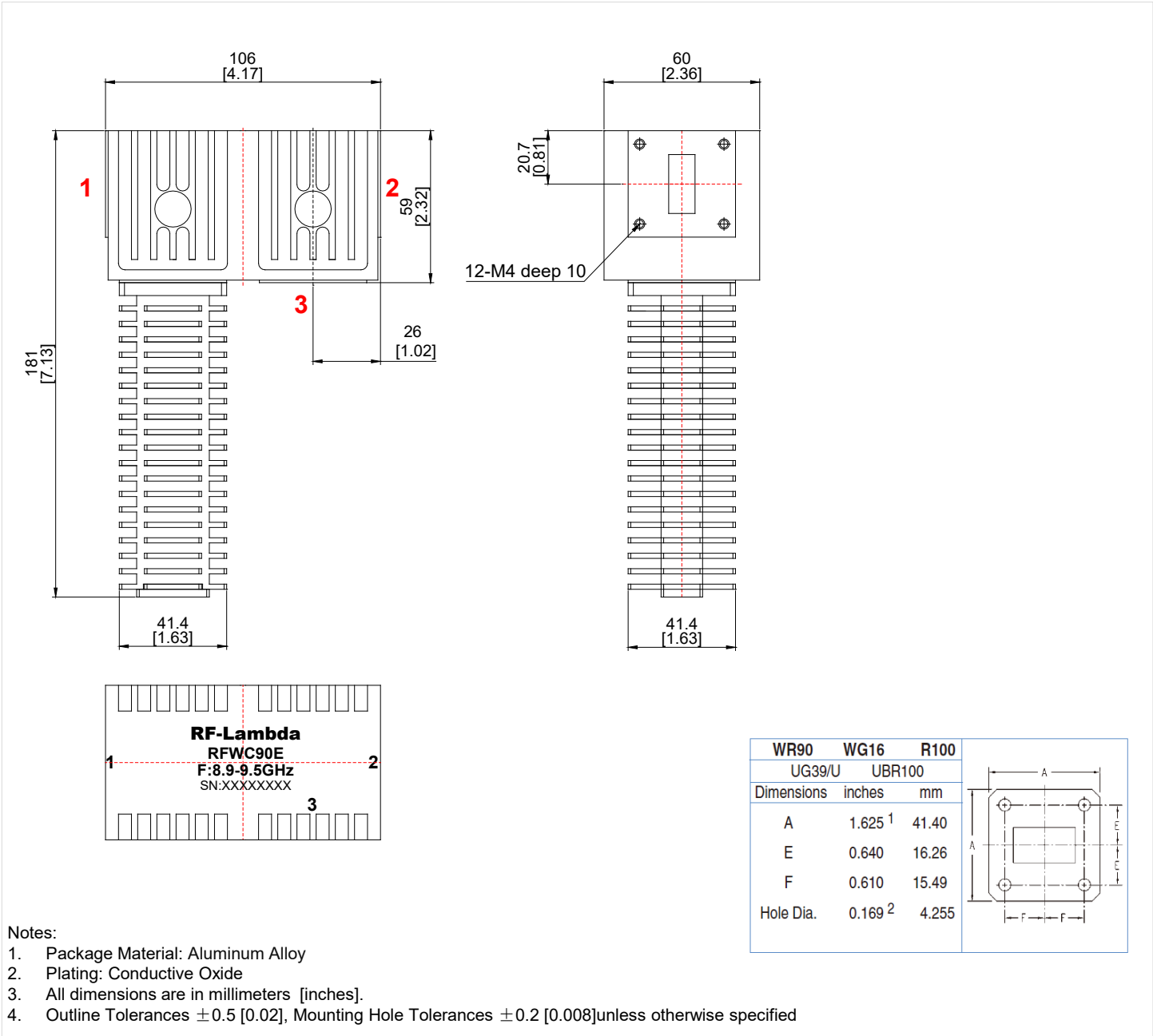
VSWR 2



VSWR3



Outline Drawing



Additional Information

Documentation	Webpage
ESD Policy	https://rflambda.com/pdf/rflambda_esd_control.pdf
Connector Torque Specifications	https://www.rflambda.com/pdf/Torque_Specifications.pdf
Random Vibration Test Standard	https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Ordering Information

Part Number	Modification	Description
RFWC90E	WR90	8.9GHz-9.5GHz Waveguide Circulator

Important Notice

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