

## Coaxial 50W 90° Hybrid Coupler 450-900MHz



### Features

- High power handling up to 50W
- Wide band operation
- High isolation within operational band
- Low Insertion Loss
- Stable performance over temperature

### Typical Applications

- Aerospace and military applications
- Wireless Infrastructure
- Test and Measurement

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

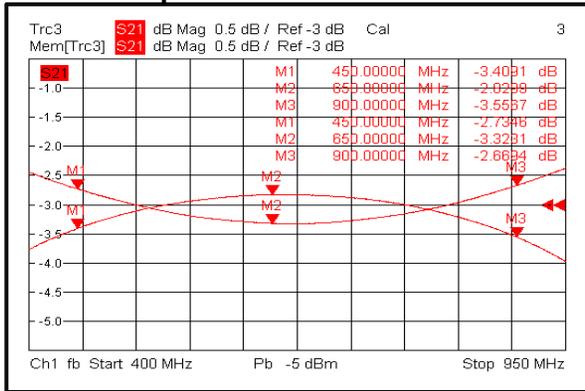
Parameters		Min.	Typ.	Max.	Units
Frequency Range		450		900	MHz
Nominal Coupling			3		dB
Insertion Loss			0.2	0.3	dB
Isolation		20	22		dB
Amplitude Imbalance			$\pm 0.35$	$\pm 0.5$	dB
Phase Imbalance			$\pm 1$	$\pm 2$	deg
VSWR			1.15	1.2	:1
Power Rating	Average	50			W
	Peak	1			KW
Impedance		50			Ohms
Weight		1.8 Max.			ounces
Input / Output Connectors		SMA-Female			
Material		Aluminum			
Finish		Blue Paint			

**Environmental Specifications and Test Standards**

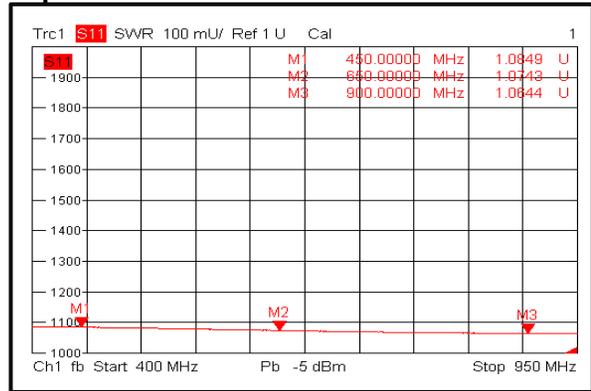
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
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 (For Hermetically Sealed Units)

**Typical Performance Plots**

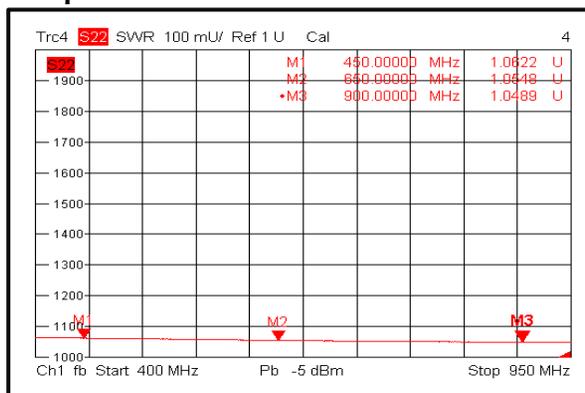
**Loss & Amplitude Imbalance**



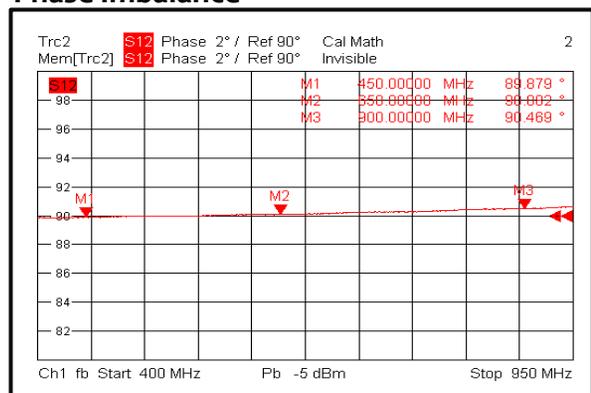
**Input VSWR**



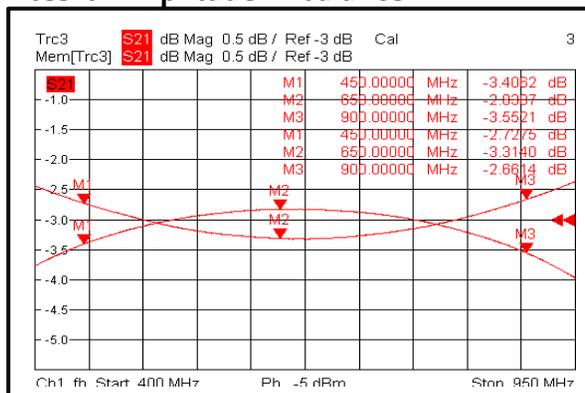
**Output VSWR**



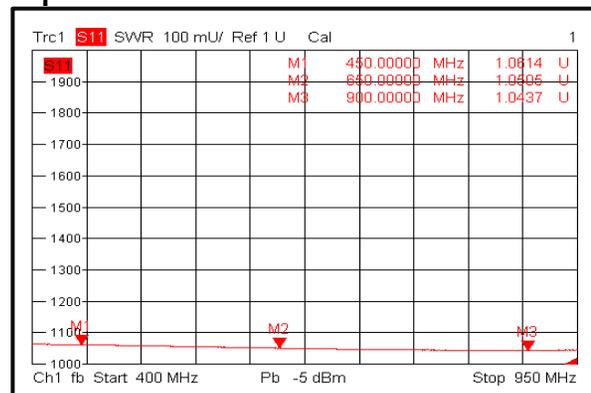
**Phase Imbalance**



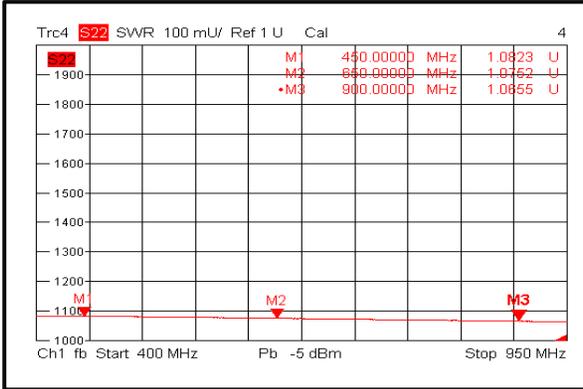
**Loss & Amplitude Imbalance**



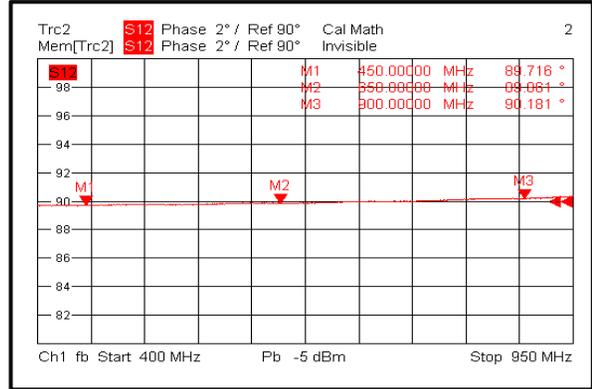
**Input VSWR**



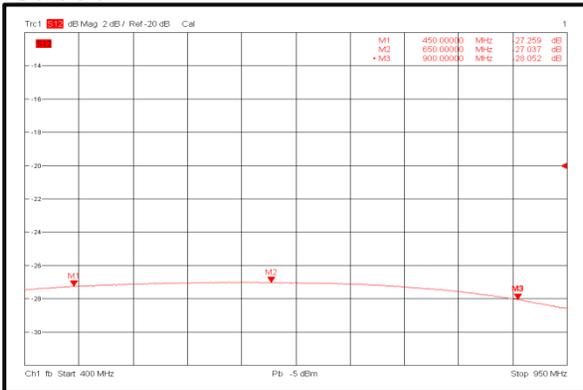
**Output VSWR**



**Phase Imbalance**



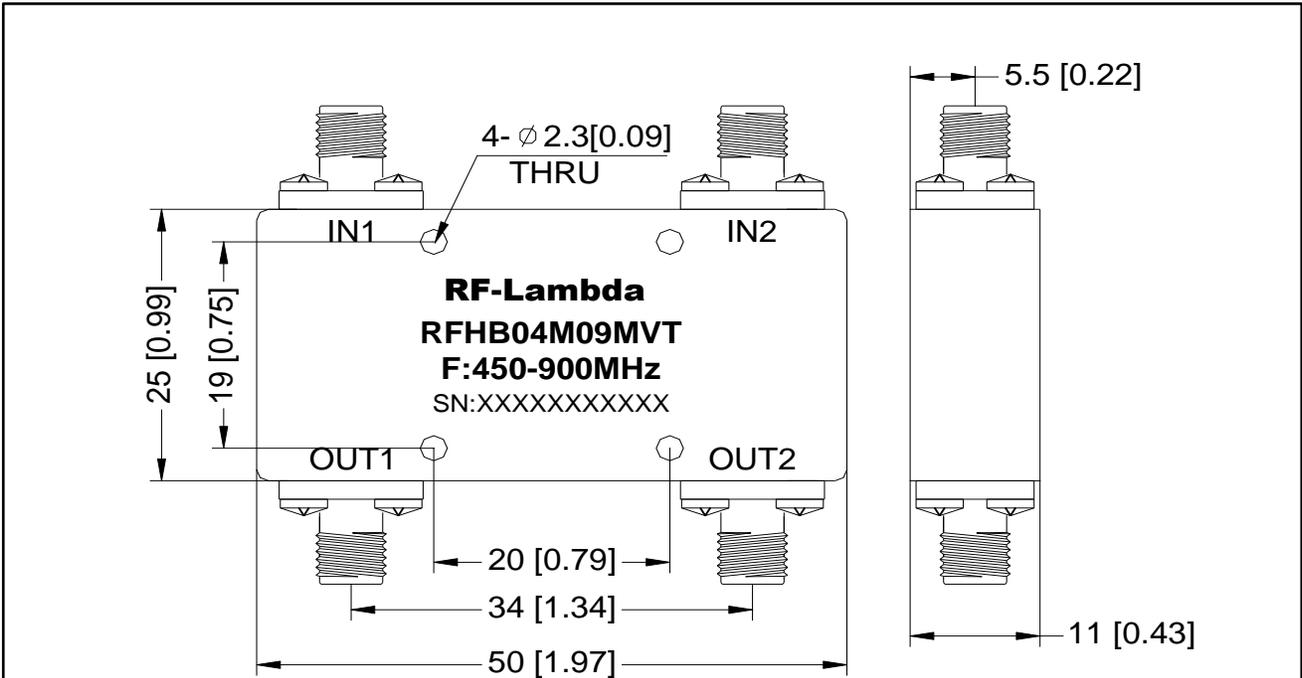
**Isolation**



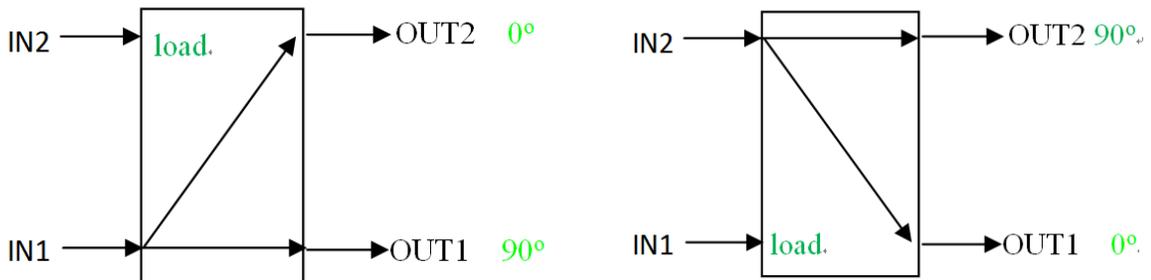
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**Outline Drawing:**

All Dimensions in mm [inches]  
Outline Tolerances  $\pm 0.5$  [0.02]  
Mounting Holes Tolerances  $\pm 0.2$  [0.008]



**Schematic:**



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