



Coaxial 50W 6dB Directional Coupler 0.5 – 2.5GHz



Features

- High power handling up to 50W
- Wide band operation
- High directivity within operational band
- Low Insertion Loss
- High peak to average handling capability

Typical Applications

- Stable performance over temperature
- Aerospace and military applications
- LMDS multi-carrier operation

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

Parameters		Min.	Typ.	Max.	Units
Frequency Range		0.5		2.5	GHz
Nominal Coupling		5	6	7	dB
Frequency Sensitivity			±0.5	±0.7	dB
Directivity		20	22		dB
Insertion Loss(Excl Coupling)				0.5	dB
Insertion Loss (True)			1.55	1.8	dB
VSWR Primary			1.15	1.2	:1
VSWR Secondary			1.15	1.2	:1
Power Rating	Average	50			W
	Peak	500			W
Impedance		50			Ohms
Weight		2.6 Max.			Ounces
Input / Output Connectors		SMA-Female			
Material		Aluminum			
Finish		Blue Paint			

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Environmental Specifications and Test Standards

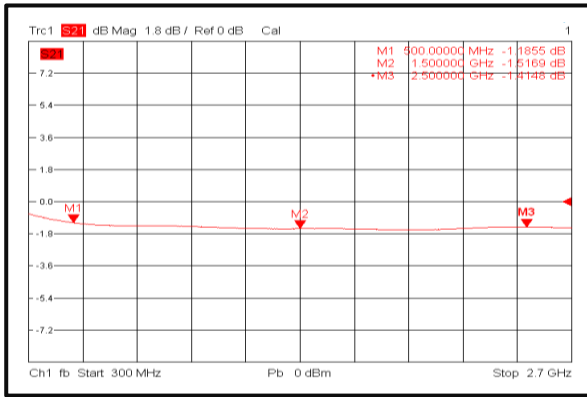
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 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)

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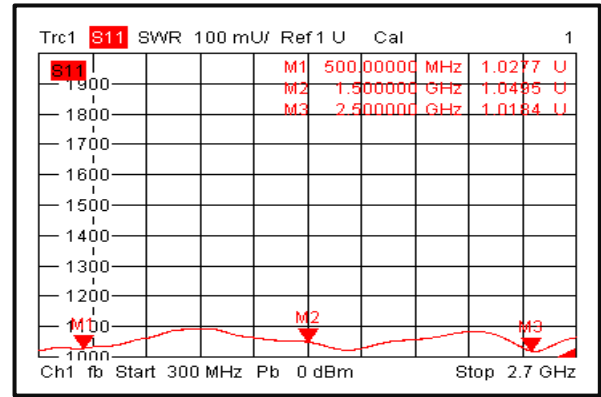


Typical Performance Plots

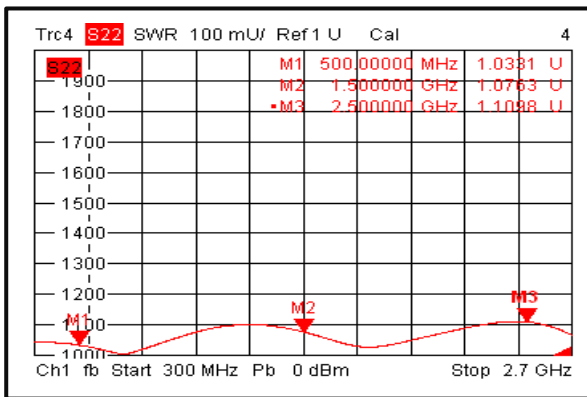
Insertion Loss



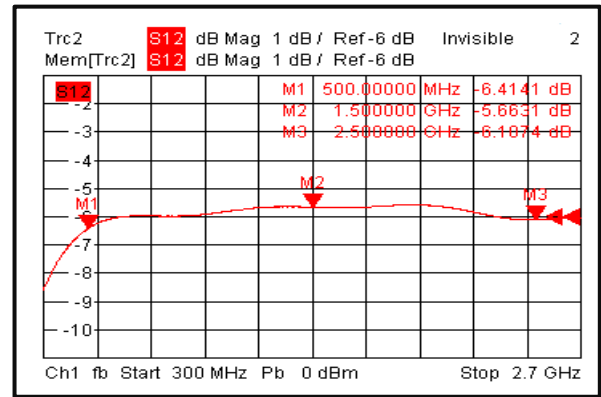
Primary VSWR



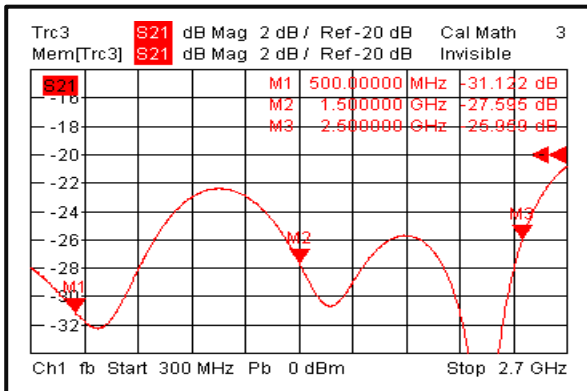
Secondary VSWR



Nominal Coupling



Directivity





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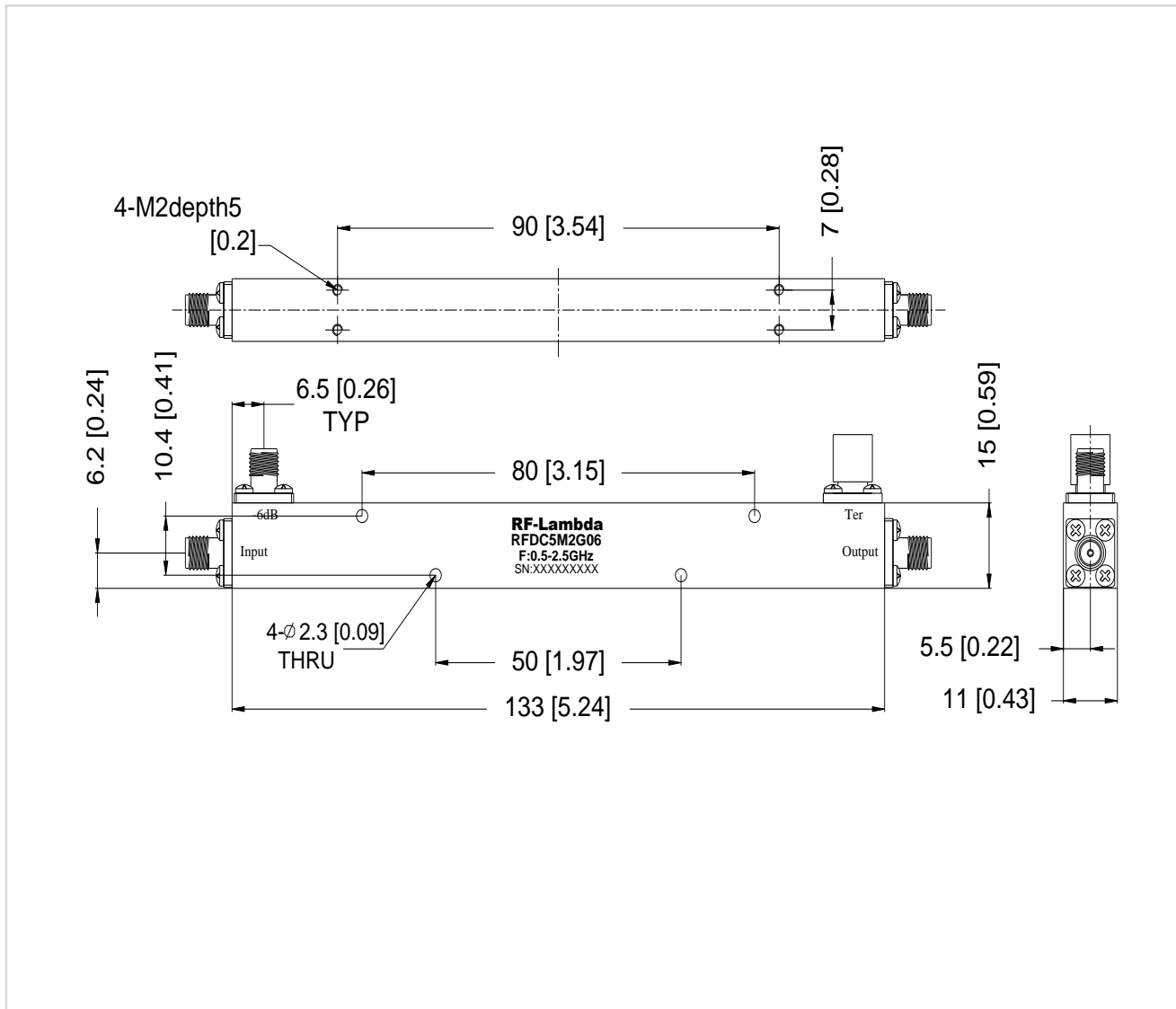
RFDC5M2G06

Outline Drawing:

All Dimensions in mm (inches)

Outline Tolerances ± 0.5 (0.02)

Mounting Holes Tolerances ± 0.2 (0.008)



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