



Coaxial 50W 20dB Dual Directional Coupler 0.5 - 6GHz



Features

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

Typical Applications

- Aerospace and military applications
- LMDS multi-carrier operation



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

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.5		2	2		6	GHz
Nominal Coupling	19	20	21	19	20	21	dB
Frequency Sensitivity		± 0.7	± 1		± 0.7	± 1	dB
Directivity	20	22		18	20		dB
Insertion Loss (Excl Coupling)			0.7			1.0	dB
Insertion Loss (true)		0.4	0.7		0.7	1.0	dB
VSWR Primary		1.2	1.25		1.2	1.25	: 1
VSWR Secondary		1.2	1.25		1.2	1.25	: 1
Power Rating	Average	50					W
	Peak	500					W
Impedance	50					Ohms	
Weight	5.29					ounces	
Input / Output Connectors	SMA-Female						
Material	Aluminum						
Finish	Blue Paint						

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Environmental Specifications and Test Standards

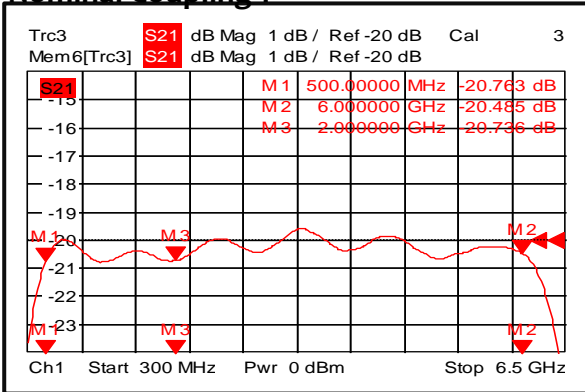
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-40°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 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

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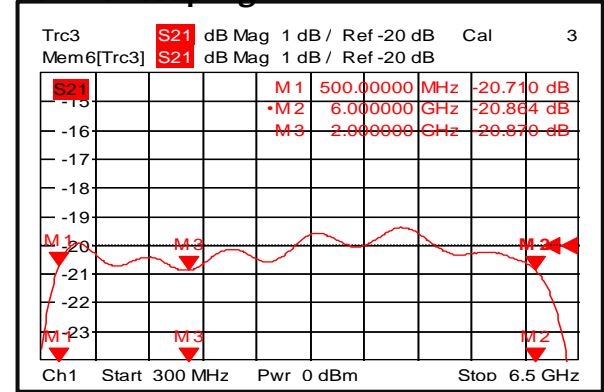


Typical Performance Plots

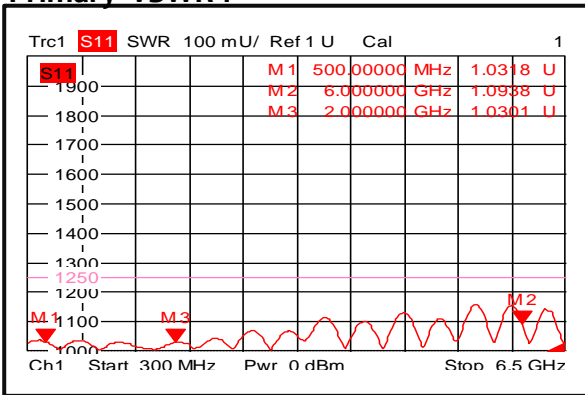
Nominal Coupling 1



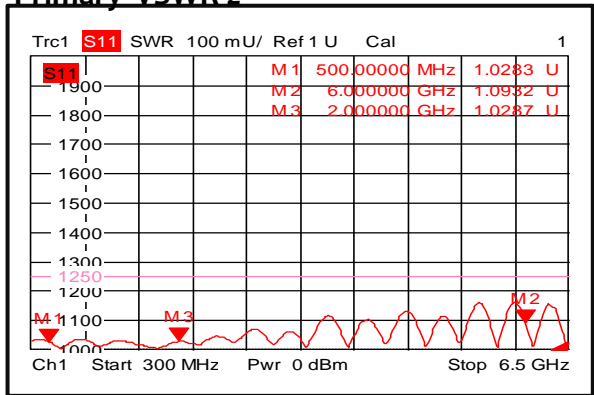
Nominal Coupling 2



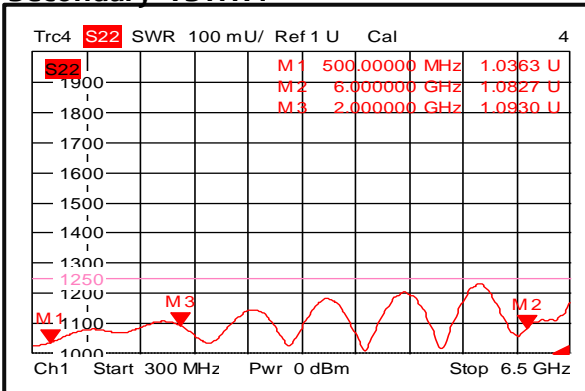
Primary VSWR 1



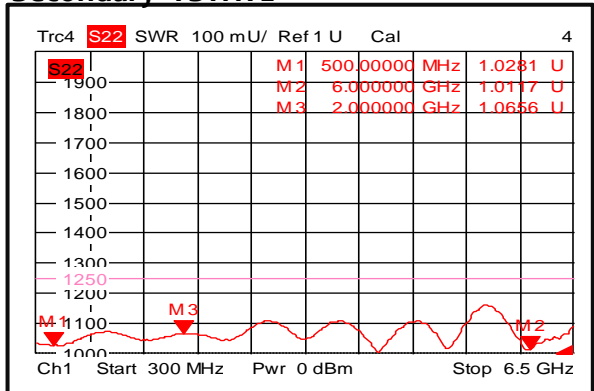
Primary VSWR 2



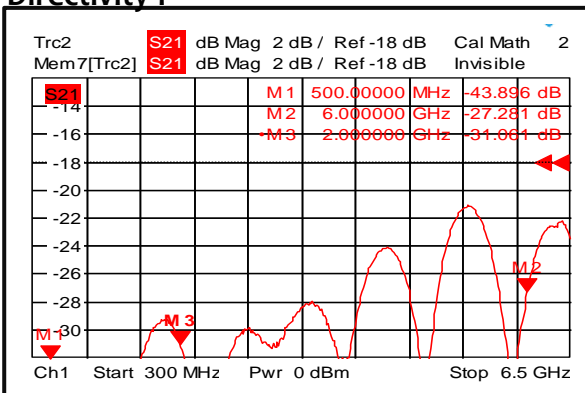
Secondary VSWR 1



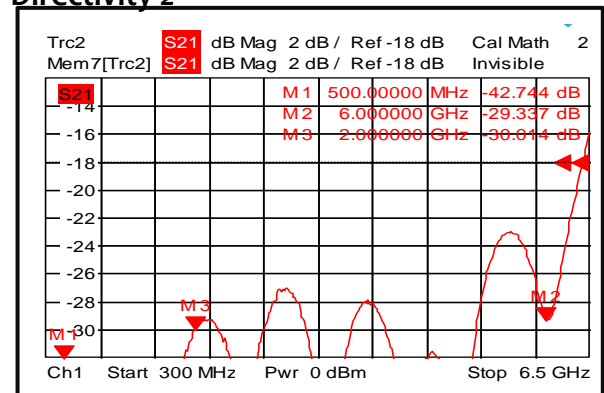
Secondary VSWR 2



Directivity 1



Directivity 2





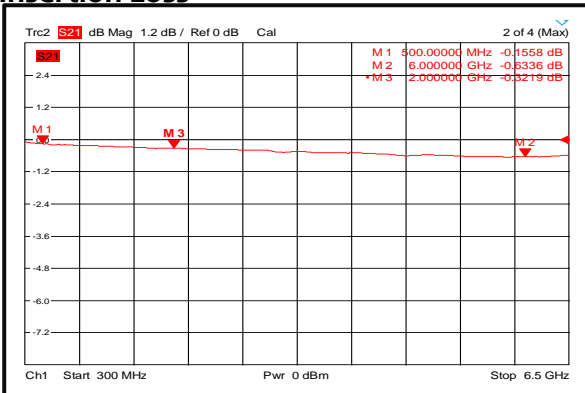
RF-LAMBDA

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RFDDC5M06G20

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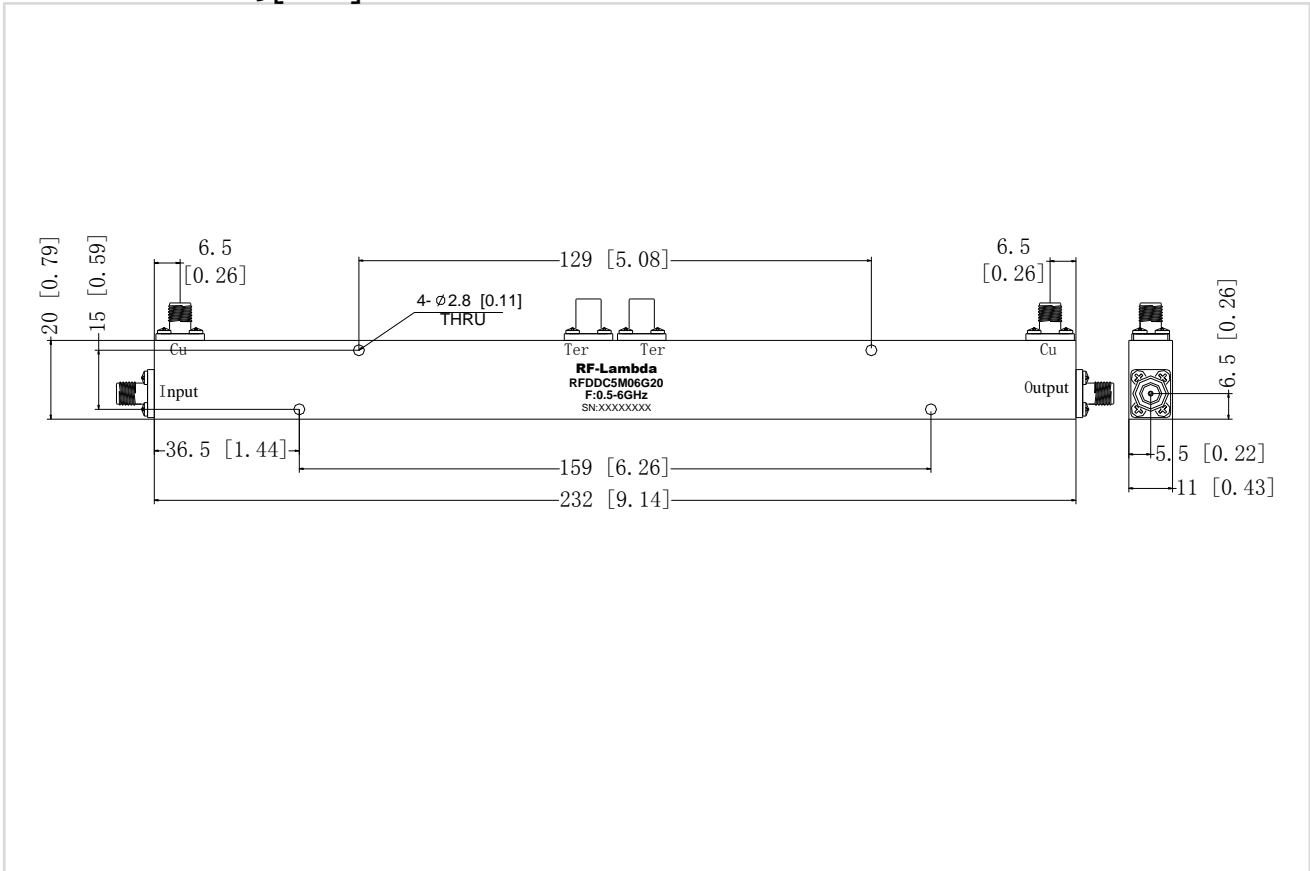
Insertion Loss



Outline Drawing:

All Dimensions in mm [inches]

Tolerance ± 0.25 [0.01]



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