

Coaxial 50W 20dB Directional Coupler 0.5 - 18GHz



Features

- High power handling up to 50W
- Low Insertion Loss
- Stable performance over temperature
- High peak to average handling capability

Typical Applications

- Aerospace and Military
- Wireless Infrastructure
- Test and Measurement

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

Parameters		Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range		0.5		12.4	12.4		18	GHz
Nominal Coupling		19	20	21.5	19	20	21	dB
Frequency Sensitivity			± 0.8	$\pm 0.1.0$		± 0.8	± 1.0	dB
Directivity		12	14		10	12		dB
Insertion Loss (Excl Coupling)			0.7	0.9		0.8	1.0	dB
Insertion Loss (true)			0.65	1.0		0.85	1.1	dB
VSWR Primary			1.3	1.5		1.4	1.6	:1
VSWR Secondary			1.3	1.5		1.5	1.6	:1
Power Rating	Average	50						W
	Peak	1						KW
Impedance		50						Ohms
Weight		7.2 Max.						ounces
Input / Output Connector		N-Female						
Material		Aluminum						
Finish		Gray Paint						

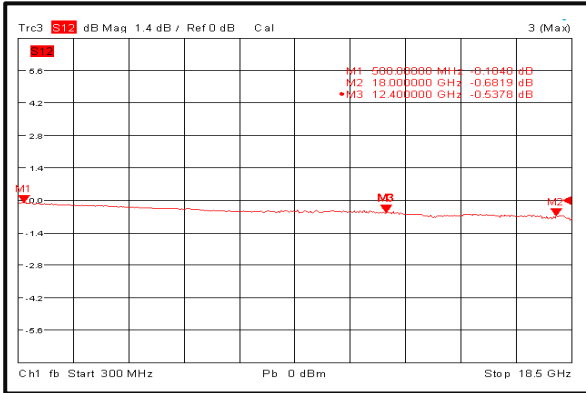
Note: 2016 version is Blue Paint

Environmental Specifications and Test Standards

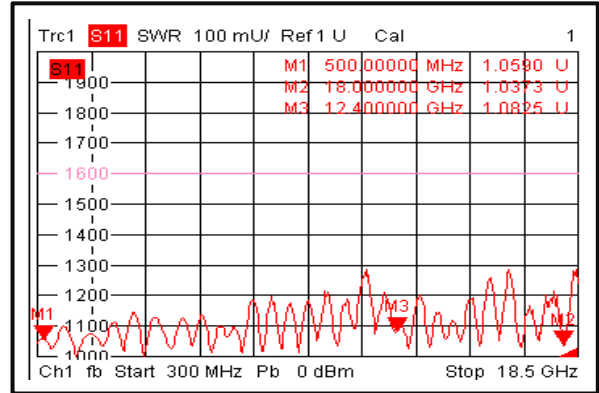
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours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

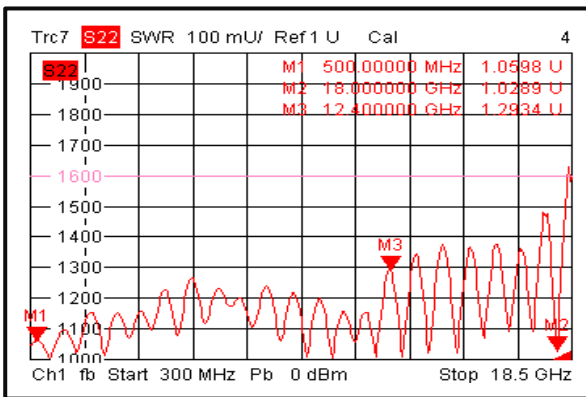
Insertion Loss



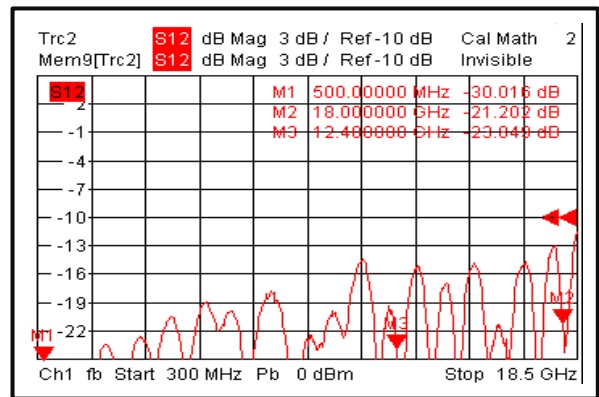
Primary VSWR



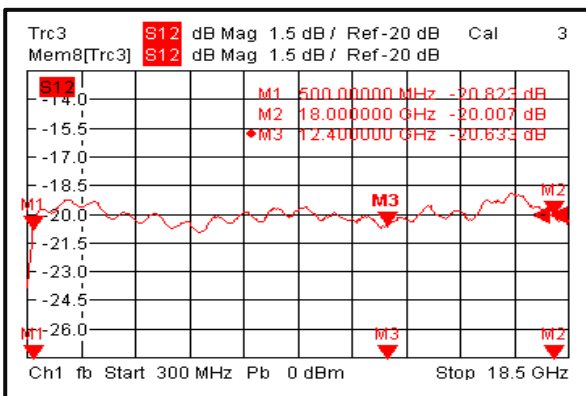
Secondary VSWR



Directivity



Nominal Coupling



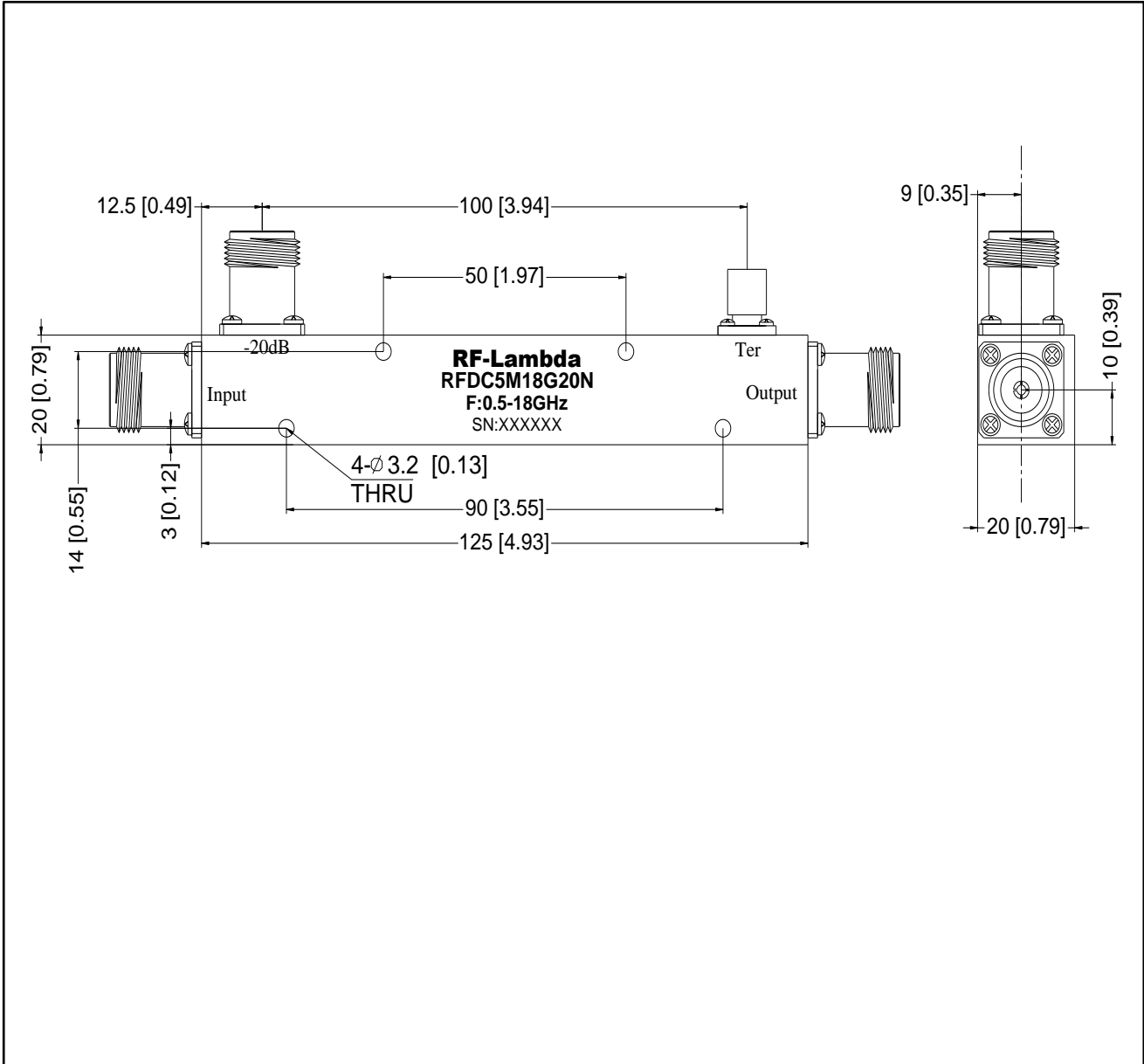
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Outline Drawing:

All Dimensions in mm [inches]

Outline Tolerances ± 0.5 [0.02]

Mounting Holes Tolerances ± 0.2 [0.008]



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