

Coaxial 50W 30dB Dual Directional Coupler 1-18 GHz



Features

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

Typical Applications

- Aerospace and Military
- Wireless Infrastructure
- Test and Measurement

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

Parameters		Min.	Typ.	Max.	Units
Frequency Range		1		18	GHz
Nominal Coupling		29	30	31.5	dB
Frequency Sensitivity			± 0.7	± 1.0	dB
Directivity		10	12		dB
Insertion Loss (Excl. Coupling)			1.0	1.2	dB
Insertion Loss (true)			0.9	1.2	dB
VSWR Primary			1.5	1.6	: 1
VSWR Secondary			1.5	1.6	: 1
Power Rating	Average	50			W
	Peak	500 (10% Duty Cycle, 1 us Pulse Width)			W
Impedance		50			Ohms
Weight		5.0 Max.			ounces
Input / Output Connectors		N-Female			
Material		Aluminum			
Finish		Blue Paint			

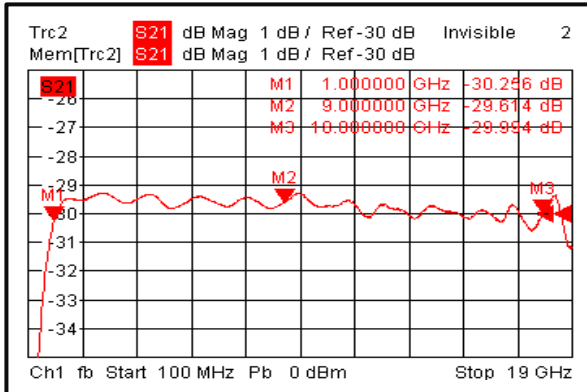
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Environmental Specifications and Test Standards

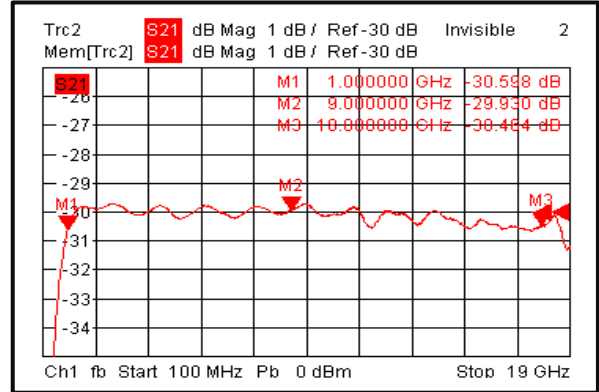
Parameter	Description
Operational Temperature	-40°C~+85°C (Case Temperature)
Storage Temperature	-50°C~+105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours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

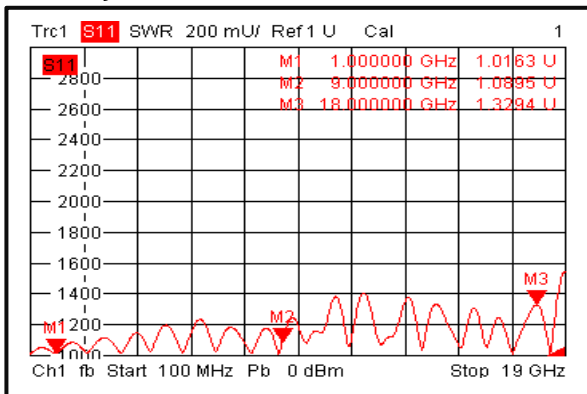
Nominal Coupling 1



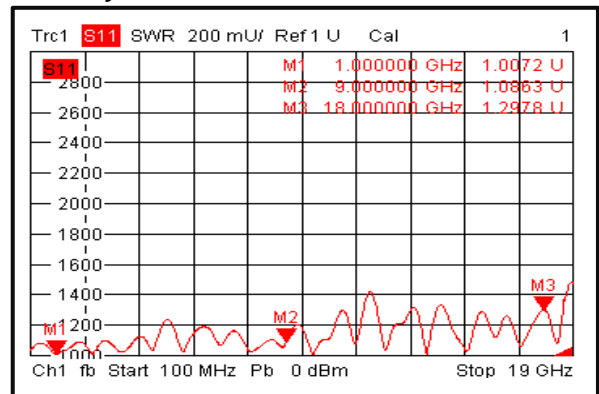
Nominal Coupling 2



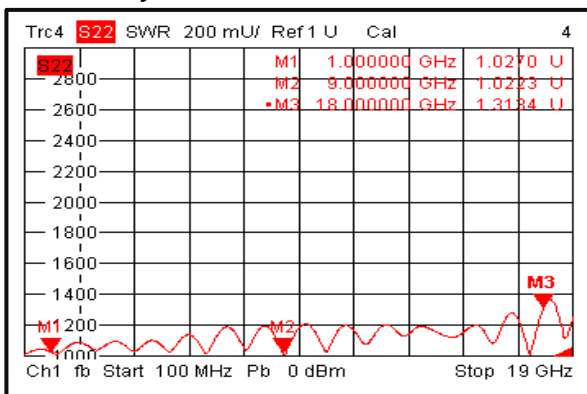
Primary VSWR 1



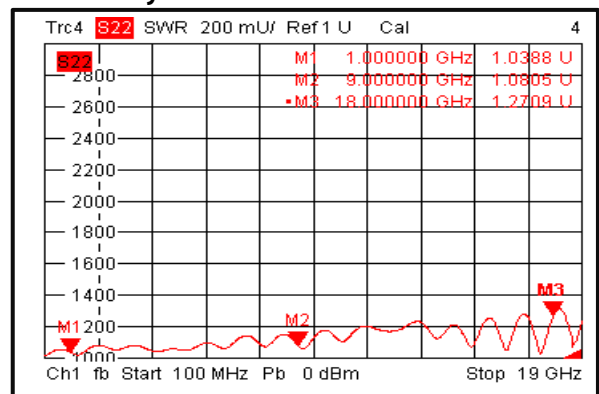
Primary VSWR 2



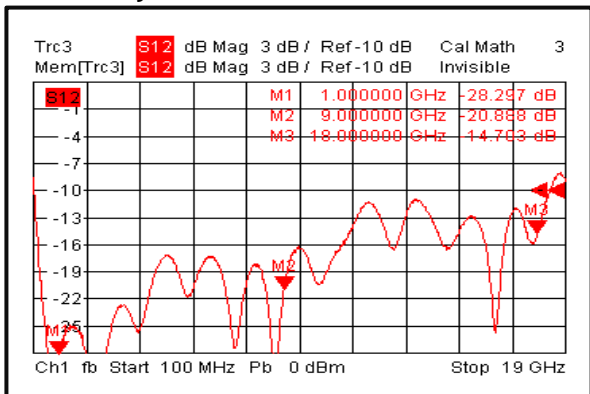
Secondary VSWR 1



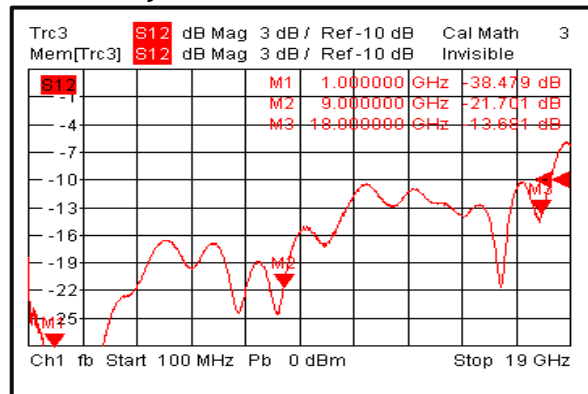
Secondary VSWR 2



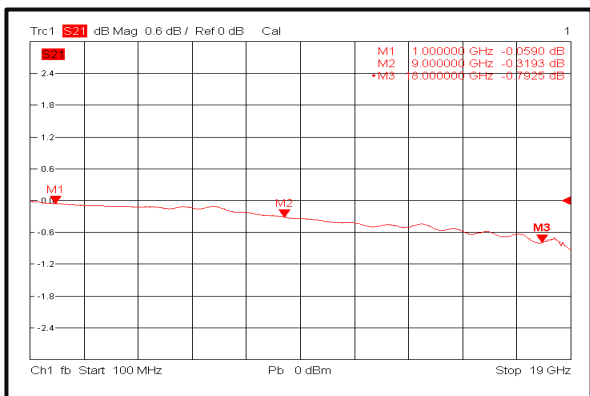
Directivity 1



Directivity 2



Insertion Loss

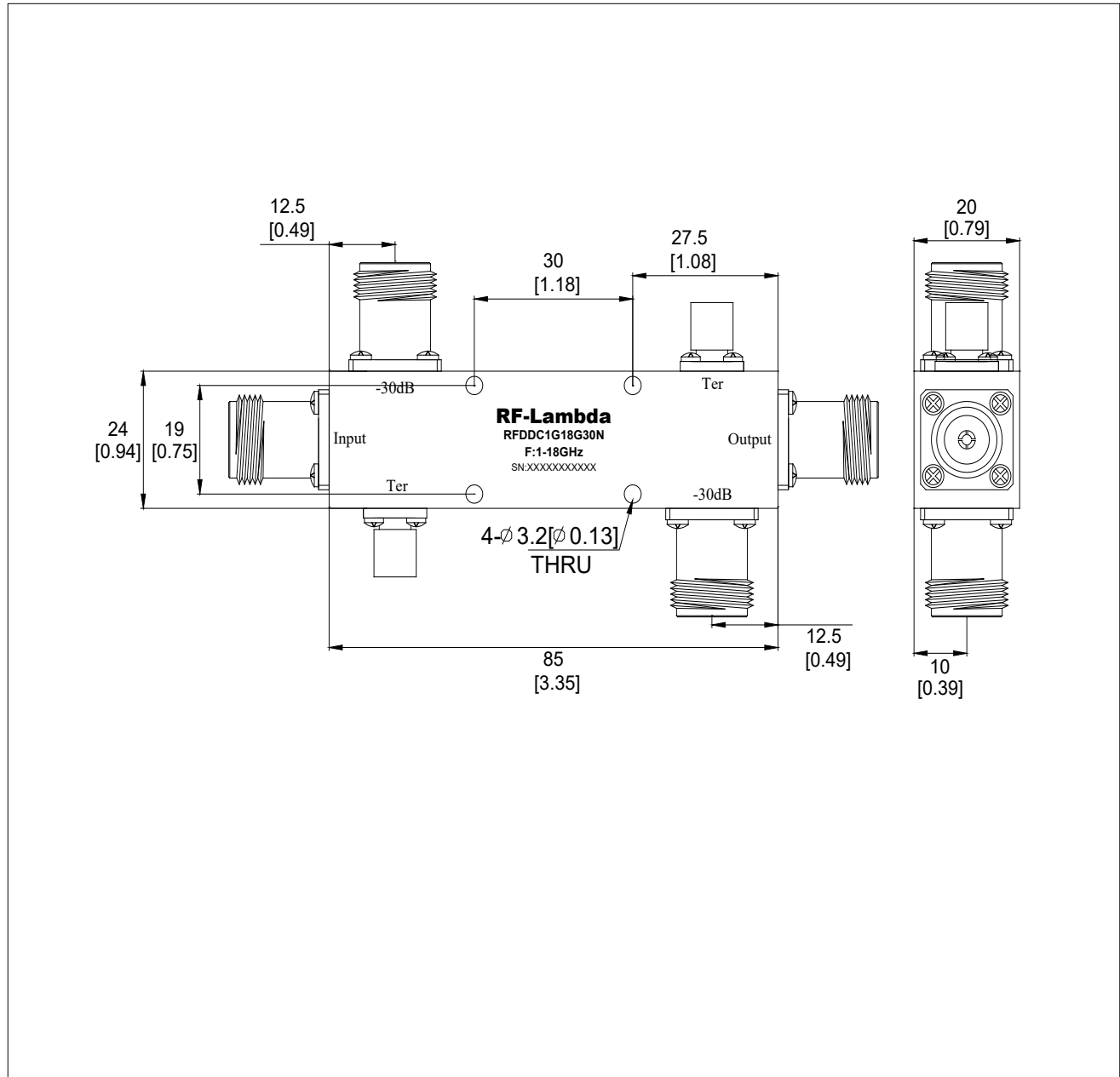


Outline Drawing:

All Dimensions in mm [inches]

Outline Tolerances ± 0.5 [0.02]

Mounting Hole Tolerances ± 0.2 [0.008]



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