

Coaxial 300W 30dB Directional Coupler 300MHz-500MHz



Product Description

RFDC3M5M30 is a coaxial directional coupler with a frequency range of 300 to 500MHz.

The power of this directional coupler is 300W. The insertion loss is 0.1dB with a typical directivity of 22dB.

The working temperature of this product is between - 40°C and + 85°C.

Features

- High power handling up to 300W
- Wide band operation
- High directivity within operational band
- Low Insertion Loss

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications, TA = +25°C

Parameter		Min	Typ	Max	Units
Frequency Range		300		500	MHz
Nominal Coupling		29.2	30	30.8	dB
Frequency Sensitivity			±0.3		dB
Directivity		20	22		dB
Insertion Loss (Excl Coupling)				0.1	dB
Insertion Loss (true)			0.1	0.2	dB
VSWR Primary			1.1	1.2	: 1
VSWR Secondary			1.1	1.2	: 1
Power Rating	Average		300		W
	Peak		5 (10% Duty Cycle, 1 us Pulse Width)		KW
Weight			2.1 Max.		lbs
Impedance			50		Ω
Input / Output Connectors		NA-Female(Input) – N-Female(Output)			
Package		Epoxy Sealed (Standard)			
		Hermetically Sealed (Optional)			

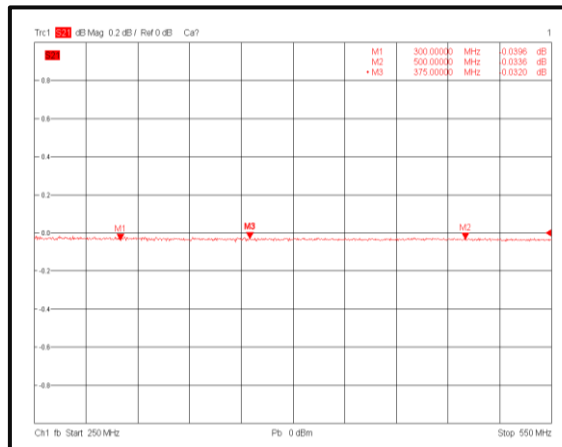
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +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
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)

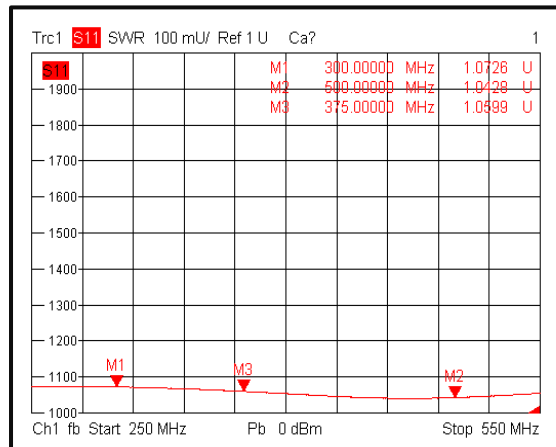
*For vibration testing details please see additional information section.

Typical Performance Plots

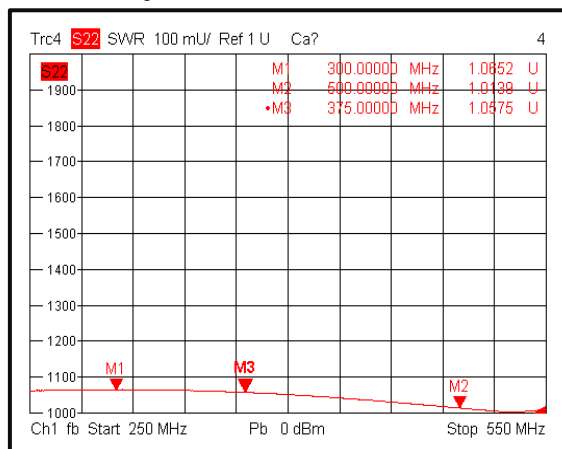
Insertion Loss



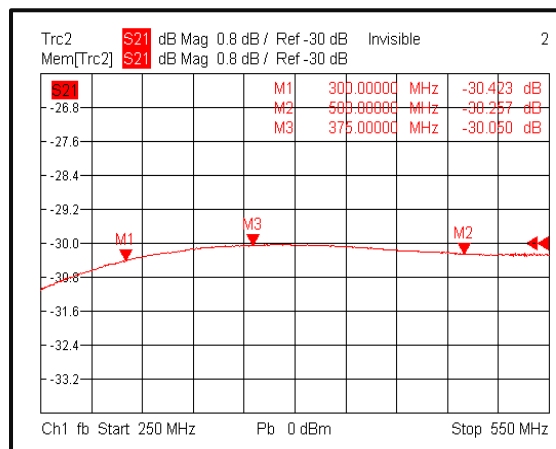
Primary VSWR



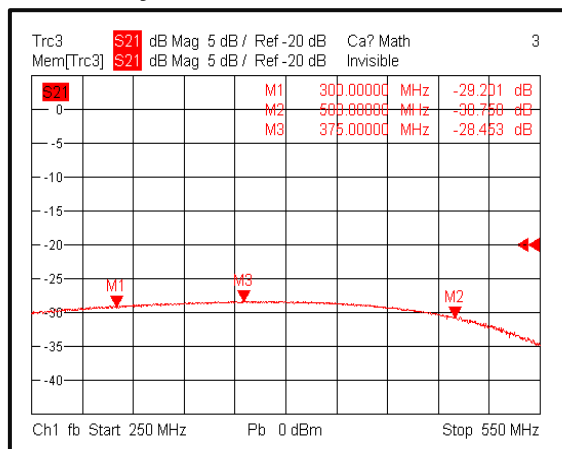
Secondary VSWR



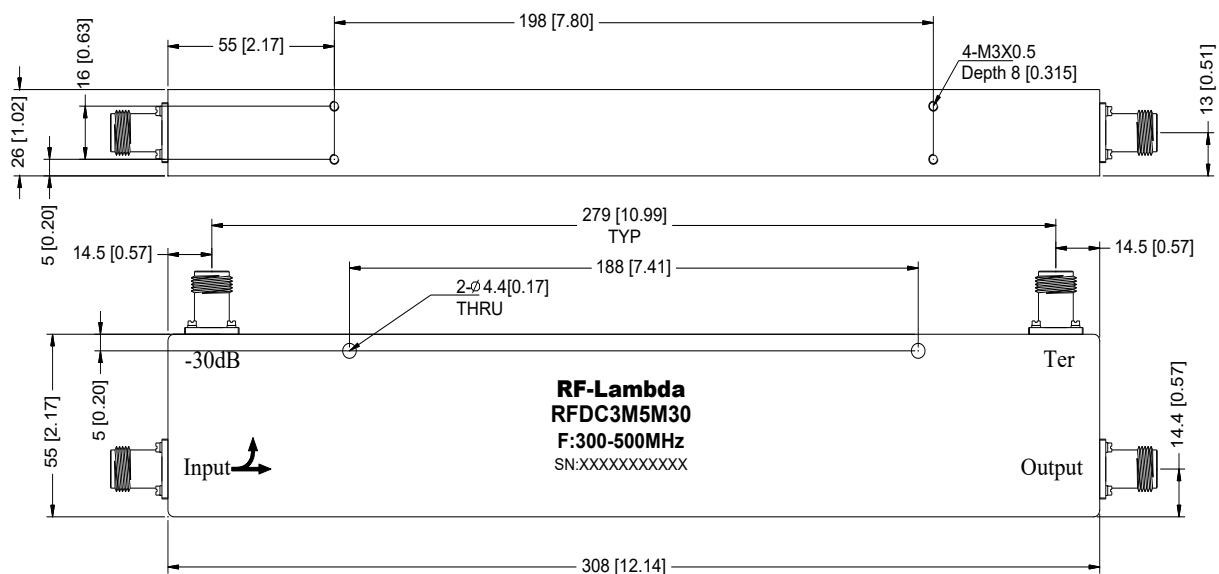
Nominal Coupling



Directivity

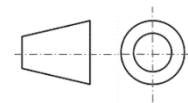


Outline Drawing



Notes:

1. Package Material: Aluminum.
2. Finish: Blue Paint.
3. Outline Tolerances ± 0.5 [0.02], Mounting Hole Tolerances ± 0.25 [0.01] unless otherwise specified.
4. All dimensions are in millimeters [inches].



Additional Information

Documentation

Connector Torque Specifications

https://www.rflambda.com/pdf/Torque_Specifications.pdf

Random Vibration Test Standard

https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Webpage

Ordering Information

Part Number	Modification	Description
RFDC3M5M30	Standard	300MHz-500MHz Directional Coupler

Important Notice

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