

Coaxial 500W 40dB Directional Coupler 100MHz-400MHz



Product Description

RFDC1M4M40 is a coaxial directional coupler with a frequency range of 100 to 400MHz.

The power of this directional coupler is 500W. The insertion loss is 0.25dB 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 500W
- 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	100		400	MHz
Nominal Coupling	38	40	42	dB
Frequency Sensitivity		±0.8	±1.0	dB
Directivity	19	22		dB
Insertion Loss (Excl Coupling)			0.25	dB
Insertion Loss (true)		0.15	0.25	dB
VSWR Primary		1.1	1.2	: 1
VSWR Secondary		1.12	1.2	: 1
Power Rating	Average	500		W
	Peak	3 (10% Duty Cycle, 1 us Pulse Width)		KW
Weight		2.1 Max.		lbs
Impedance		50		Ω
Input / Output Connectors	N-Female			
Package	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

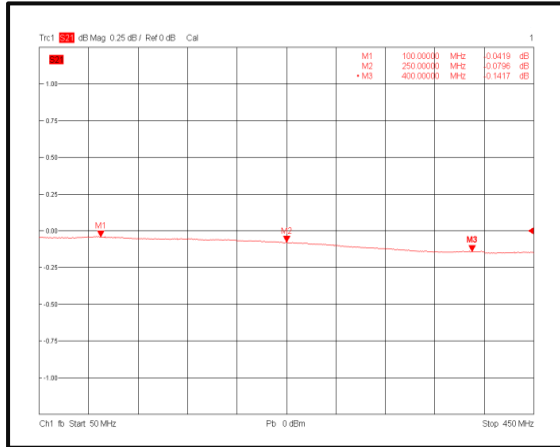
Environmental Specifications and Test Standards

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)

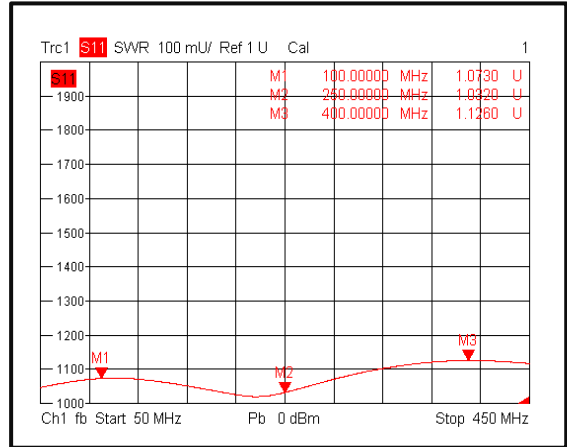
*For vibration testing details please see additional information section.

Typical Performance Plots

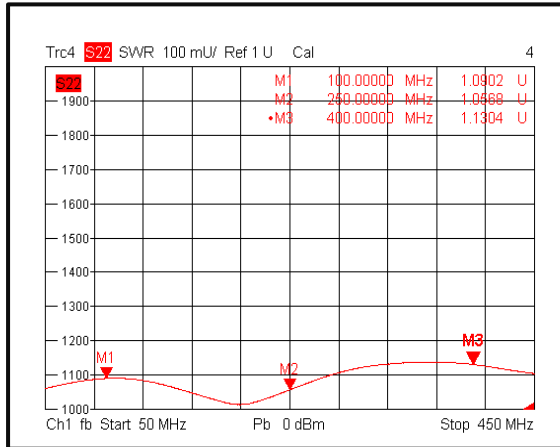
Insertion Loss



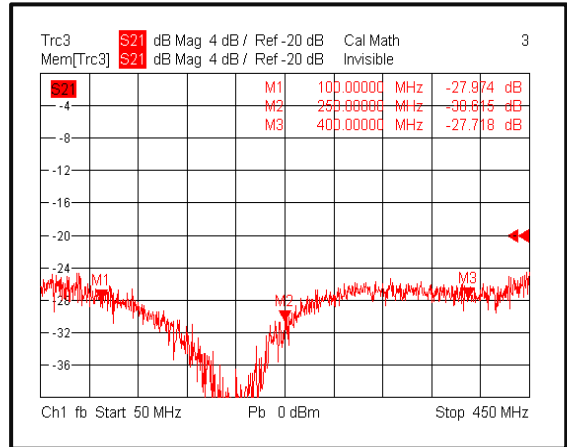
Primary VSWR



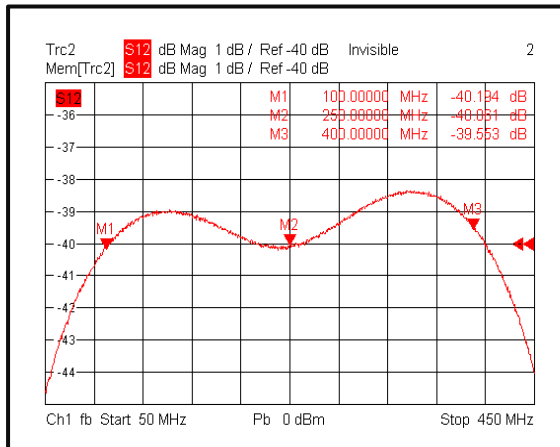
Secondary VSWR



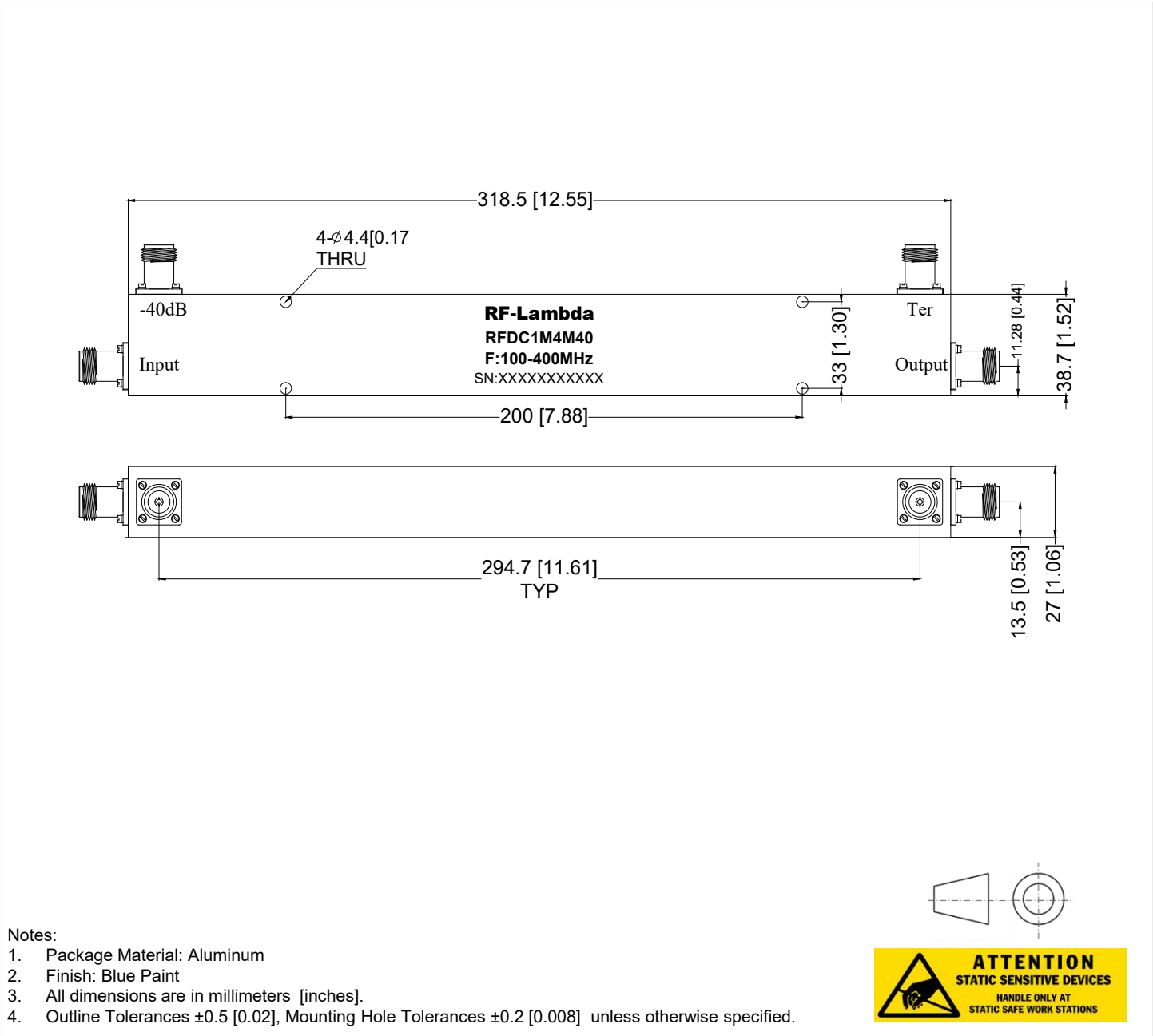
Directivity



Nominal Coupling



Outline Drawing



Additional Information

Documentation	Webpage
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

Ordering Information

Part Number	Modification	Description
RFDC1M4M40	Connectors N-Female	100-400MHz Directional Coupler

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