

## Coaxial 250W 35dB Directional Coupler 0.9GHz-9GHz



### Product Description

RFDC9M9G35 is a coaxial directional coupler with a frequency range of 0.9 to 9GHz.

The power of this directional coupler is 250W. The Insertion Loss is 0.4dB with a typical directivity of 18dB.

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

### Features

- High power handling up to 250W
- Ultra 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

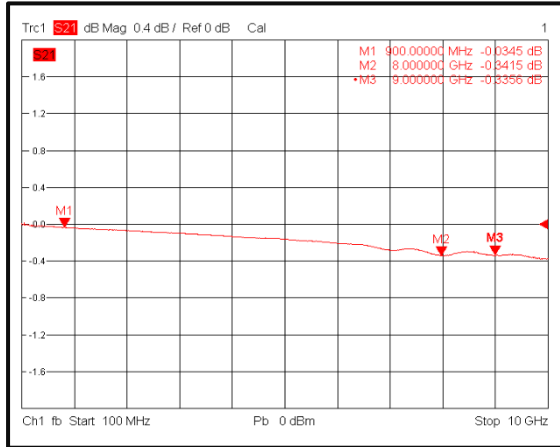
Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	0.9		8	8		9	GHz
Nominal Coupling	34.5	35	36.5	34.5	35	36	dB
Frequency Sensitivity		±0.7	±1		±0.5	±0.7	dB
Directivity	16	18		11	14		dB
Insertion Loss (Excl Coupling)		0.3	0.4		0.35	0.4	dB
Insertion Loss (true)		0.3	0.4		0.35	0.4	dB
Primary Return Loss	14	20		14	18		dB
Secondary Return Loss	14	20		14	18		dB
Power Rating	Average		250				W
	Peak		1 (10% Duty Cycle, 10us Pulse Width)				KW
Weight			0.45 Max.				lbs
Impedance			50				Ω
Input / Output Connectors	N-Female(Input) – N-Female(Output)-SMA-Female(Coupled)						
Package	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

**Environmental Specifications and Test Standards**

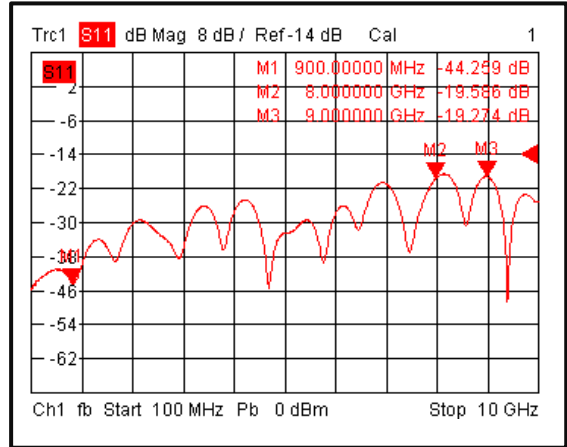
Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
**Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for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

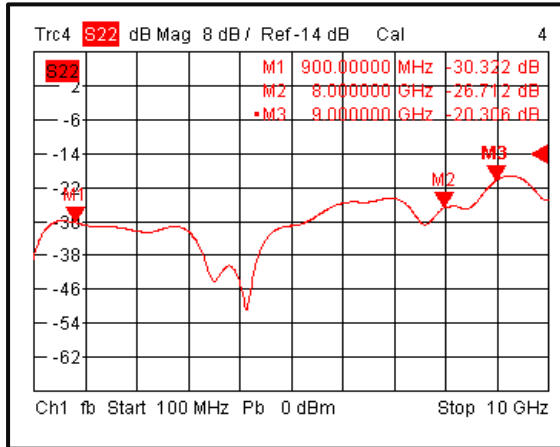
**Insertion Loss**



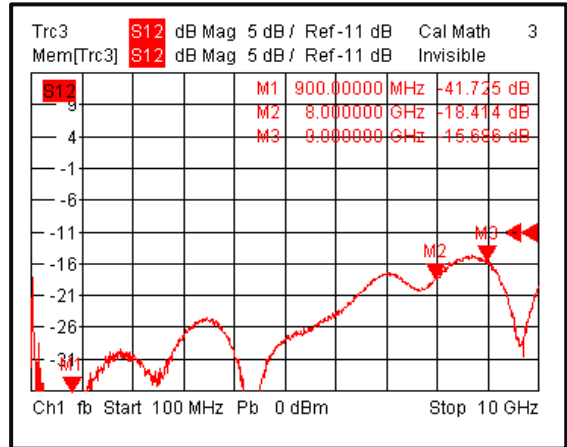
**Primary Return Loss**



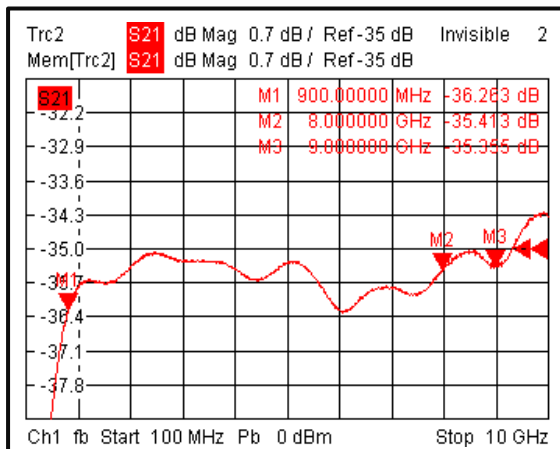
**Secondary Return Loss**



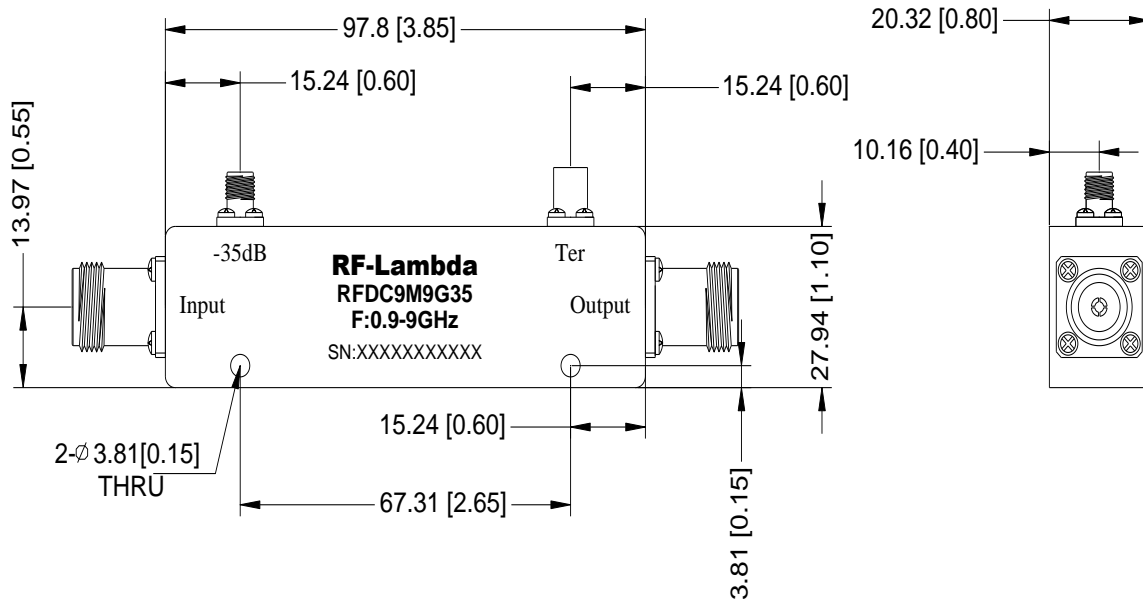
**Directivity**



**Nominal Coupling**

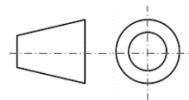


**Outline Drawing**



Notes:

1. Package Material: Aluminum
2. Finish: Blue Paint
3. All dimensions are in millimeters [inches].
4. Outline Tolerances  $\pm 0.25$  [0.01], Mounting Hole Tolerances  $\pm 0.2$  [0.008] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.



Additional Information

Documentation	Webpage
Connector Torque Specifications	<a href="https://www.rflambda.com/pdf/Torque_Specifications.pdf">https://www.rflambda.com/pdf/Torque_Specifications.pdf</a>
Random Vibration Test Standard	<a href="https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf">https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf</a>

**Ordering Information**

Part Number	Modification	Description
RFDC9M9G35	Standard	0.9GHz-9GHz Directional Coupler

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