

Hermetically Sealed Nickel Plated Coaxial 50W 10dB Directional Coupler 0.1GHz-18GHz



Note: Photo is for illustration purposes only.
Please refer to outline drawing.

Product Description

RFDC1M06G10-HN is a hermetically sealed coaxial directional coupler with a frequency range of 0.1 to 18GHz.

The power of this directional coupler is 50W. The insertion loss is 0.5dB with a typical directivity of 20dB.

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

Features

- High power handling up to 50W
- 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

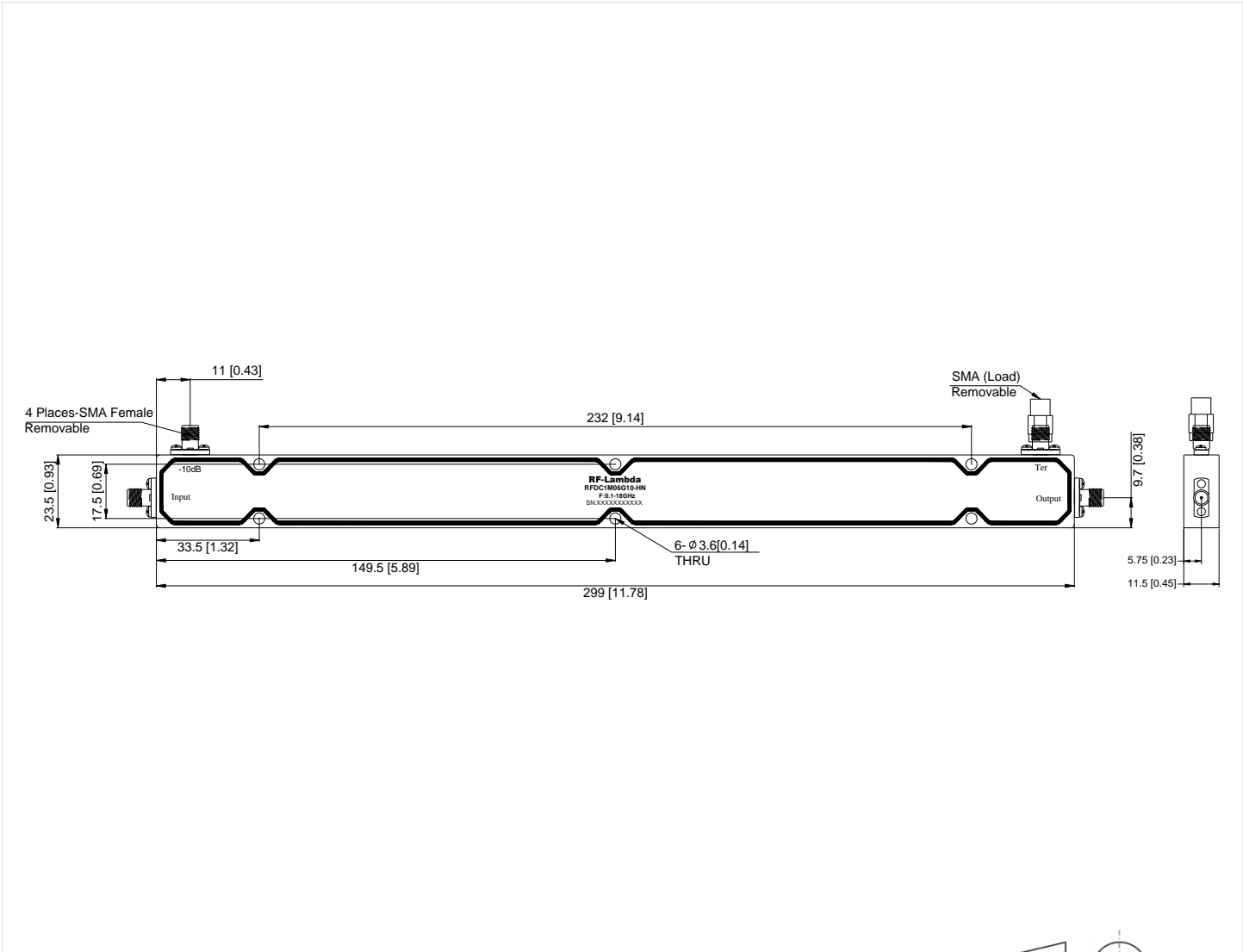
Parameter	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Units
Coupling Frequency Range	0.1		0.2	0.2		4.5	0.2		18	GHz
Nominal Coupling		14	15	9	10	11.5	8	10	12	dB
Frequency Sensitivity		±1.0			±0.7	±1.2		±1.0	±1.5	dB
Directivity	20			16	18			10		dB
Insertion Loss (Excl. Coupling)			0.5			0.5			0.5	dB
Insertion Loss (True) @0.1-6GHz(1.6dB Max.)		0.5	1.0		1.3	1.6		3.0	3.5	dB
VSWR Primary		1.1	1.2		1.2	1.3		1.7		: 1
VSWR Secondary		1.1	1.2		1.2	1.3		1.7		: 1
Power Rating	Average				50				W	
	Peak				500 (1% Duty Cycle, 1 us Pulse Width)				W	
Weight					----- Max.				lbs	
Impedance					50				Ω	
Input / Output Connectors					SMA-Female(Input) – SMA-Female(Output) (Stainless Steel)					
Package					Hermetically Sealed (Laser Welded)					

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)

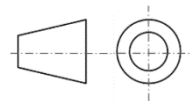
*For vibration testing details please see additional information section.

Outline Drawing



Notes:

1. Package Material: Aluminum
2. Finish: Nickel Plated (Electroless)
3. All dimensions are in millimeters [inches].
4. Outline Tolerances ± 0.5 [0.02], Mounting Hole Tolerances ± 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	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
RFDC1M06G10-HN	Standard	0.1GHz-18GHz Hermetically Sealed Directional Coupler

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