



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFDC1M06G10

Coaxial 50W 10dB Directional Coupler 0.1 – 4.5GHz



Features

- High power handling up to 50W
- Functional Bandwidth : 0.1GHz to 18GHz
- Low Insertion Loss
- Stable performance over temperature
- High peak to average handling capability

Typical Applications

- Aerospace and military applications
- LMDS multi-carrier operation

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

Parameters		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	8.5	10	11.5	dB
Frequency Sensitivity			± 1.0			± 0.7	± 1.2		± 1.0	± 1.5	dB
Directivity		20			18	20			12		dB
Insertion Loss (Excl Coupling)				0.5			0.5			0.5	dB
Insertion Loss (True) @0.1-6GHz			0.5	1.0		1.15	1.8		2.5	3.0	dB
VSWR Primary			1.1	1.2		1.2	1.25		1.6		: 1
VSWR Secondary			1.1	1.2		1.2	1.25		1.6		: 1
Power Rating	Average	50									W
	Peak	1									KW
Impedance		50									Ohms
Weight		6.35									Ounces
Input / Output Connectors		SMA-Female									
Material		Aluminum									
Finish		Blue Paint									

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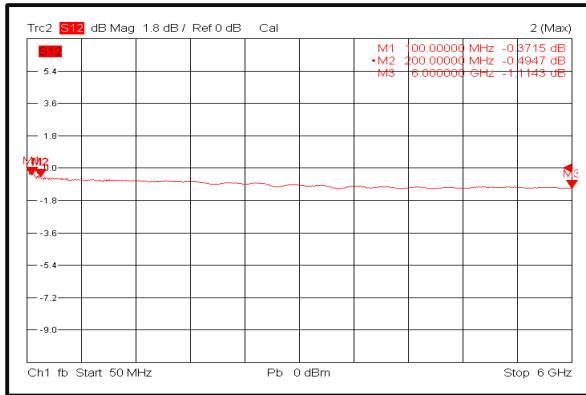
Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & 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	MIL-STD-883	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)

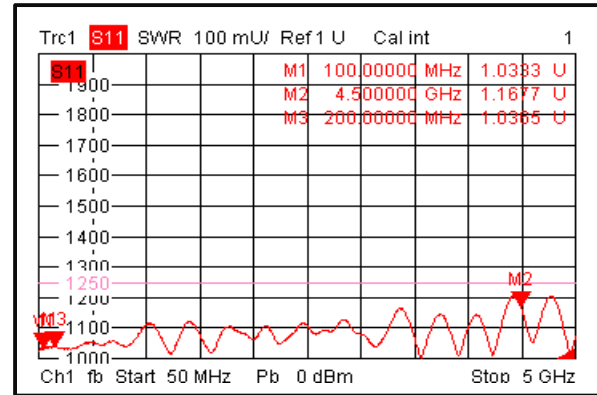


Typical Performance Plots

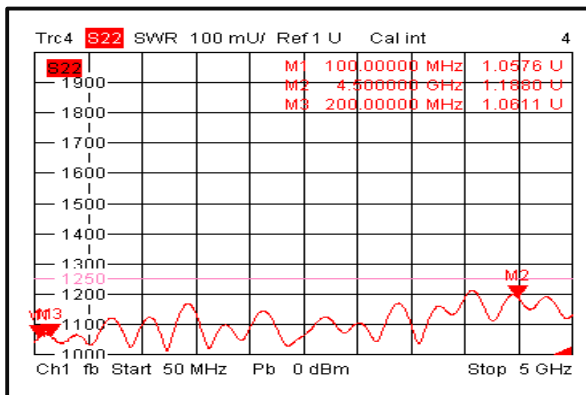
Insertion Loss (0.1-6GHz)



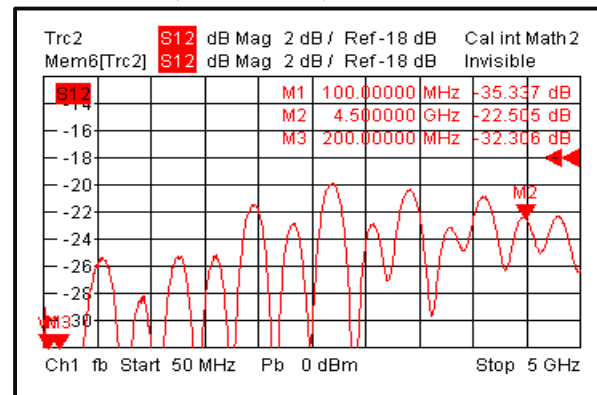
Primary VSWR (0.1-4.5GHz)



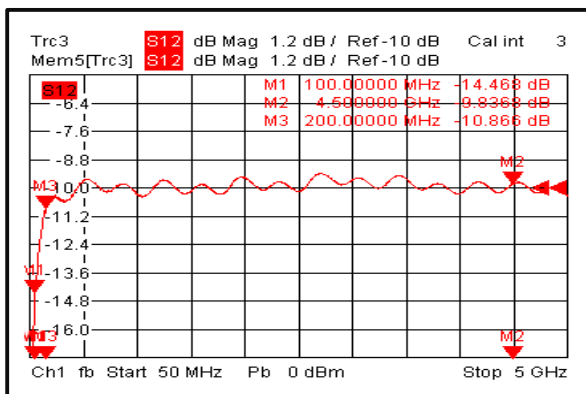
Secondary VSWR (0.1-4.5GHz)



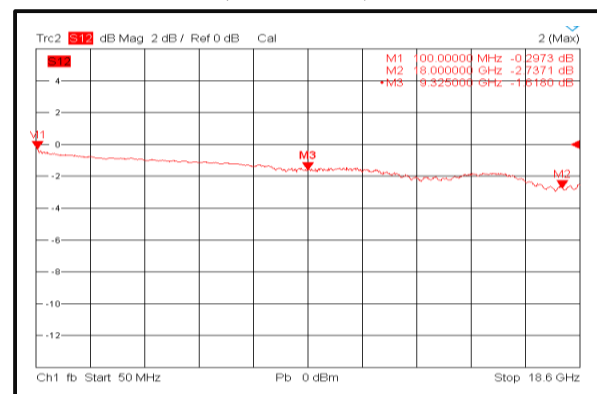
Directivity (0.1-4.5GHz)



Nominal Coupling (0.1-4.5GHz)

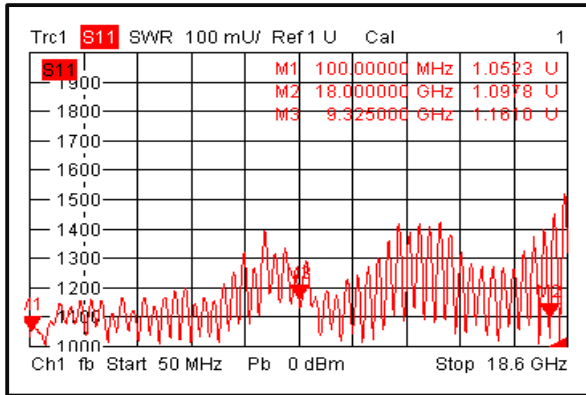


Insertion Loss (0.2-18GHz)

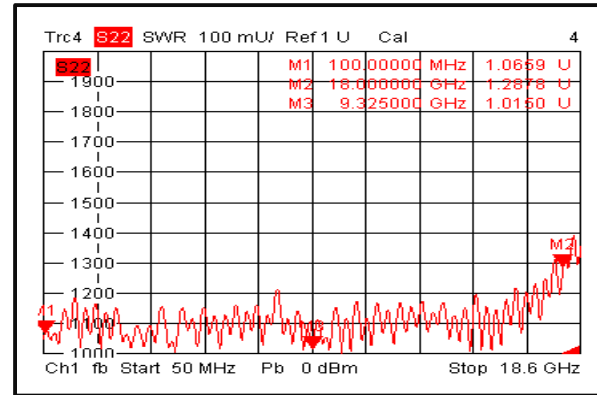




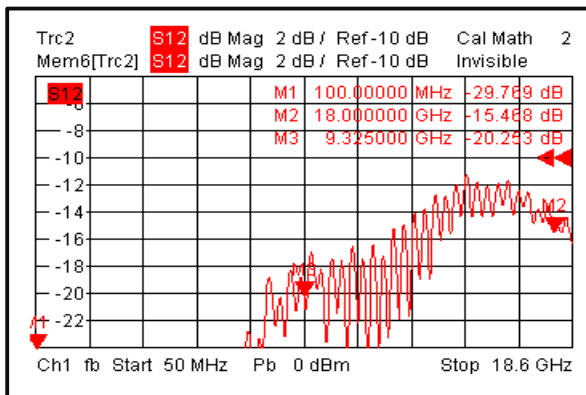
Primary VSWR (0.2-18GHz)



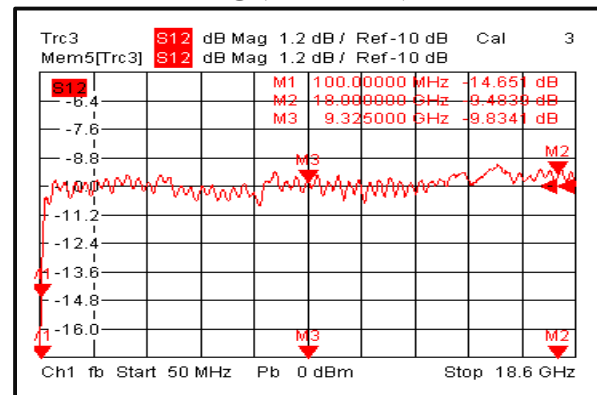
Secondary VSWR (0.2-18GHz)



Directivity (0.2-18GHz)



Nominal Coupling (0.2-18GHz)





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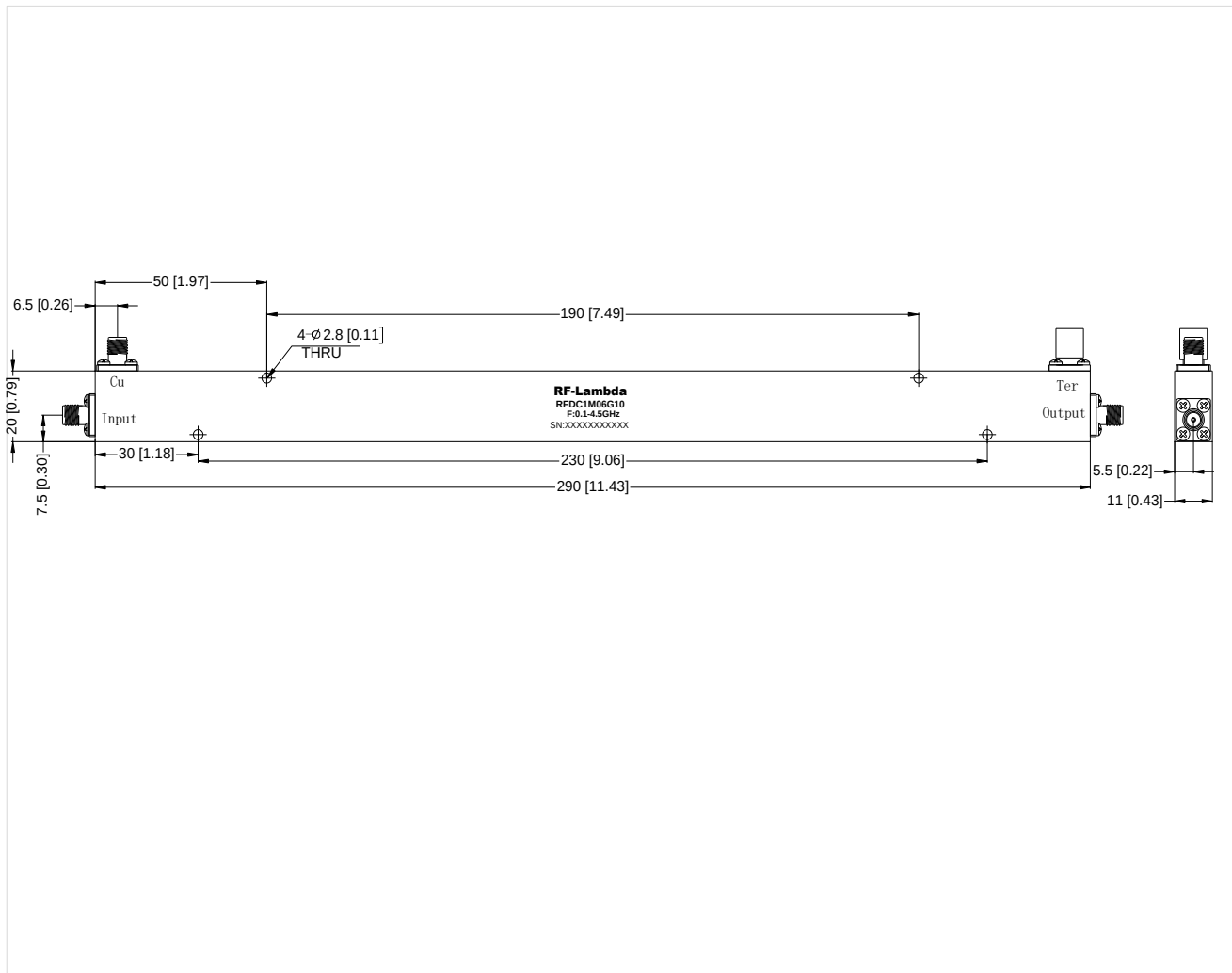
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Outline Drawing:

All Dimensions in mm [inches]

Tolerance ± 0.25 [0.01]



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