

Ultra Wide Band Power Detector 0.01GHz-18GHz



Features

- Wide Band
- High Sensitivity
- Low VSWR

Product Description

The RPDT0018GB is an ultra wide band coaxial power detector with a frequency range of 0.01 to 18GHz.

The max input Power of the detector is 23dBm. The max VSWR of 1.8:1.

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

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 (T_A=+25°C)

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range		0.01-0.5			0.5-18		GHz
VSWR		1.45	1.6		1.6	1.8	: 1
T _{ss}	-25			-35			dBm
Sensitivity		0.5			0.5		mv/uW
Input Power			23			23	dBm
Output Polarity						Positive	
Weight						0.03Max.	lbs.
Input / Output Connectors						SMA-Male(Input)-SMA-Female(Output)	
Package						Epoxy Sealed (Standard)	
						Hermetically Sealed (Optional)	

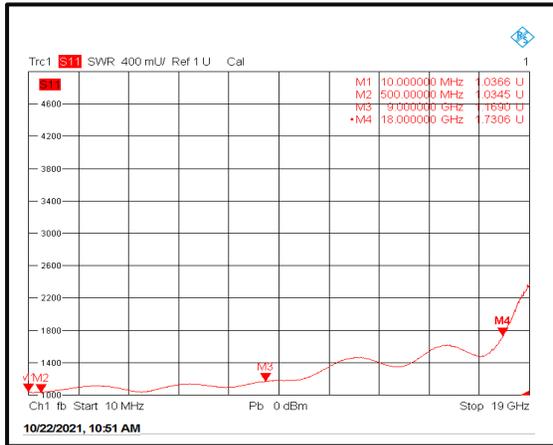
Environmental Specifications and Test Standards

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
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)

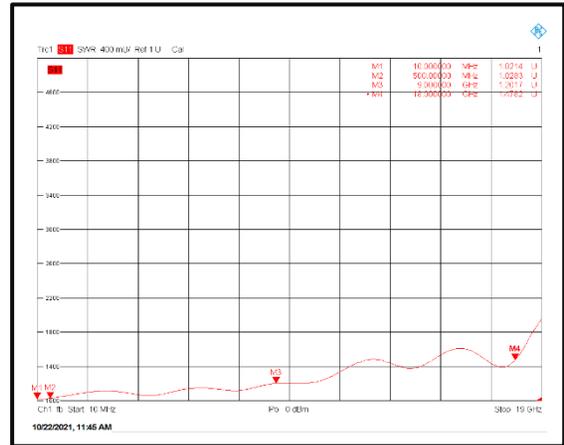
**For vibration testing details please see additional information section.

Typical Performance Plots

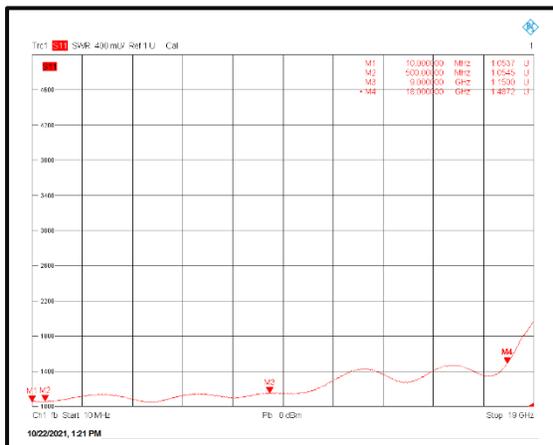
VSWR @+25°C



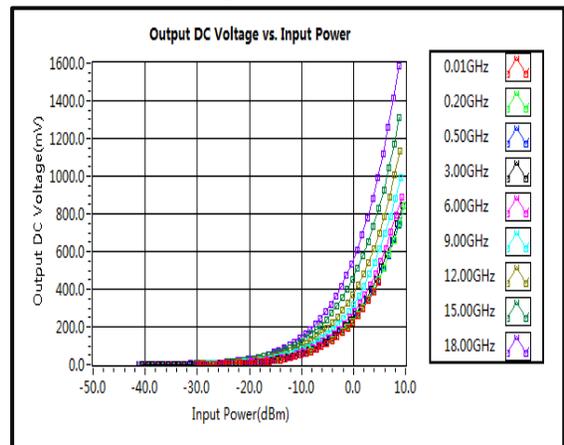
VSWR @-40°C



VSWR @+85°C



Output DC Voltage vs. Input Power



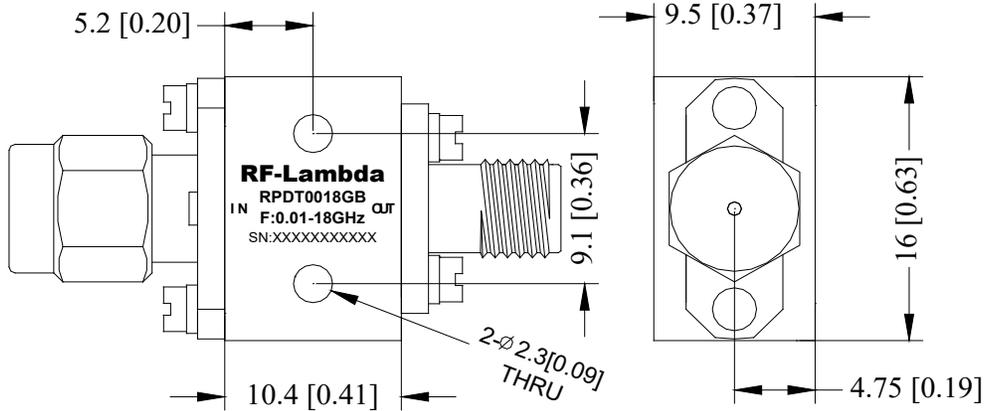
Rise Time



Fall Time

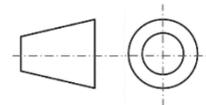


Outline Drawing



Notes:

1. Package Material: Aluminum
2. Finish: Gold
3. All dimensions are in millimeters [inches].
4. Tolerances ± 0.15 [0.006] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.



Additional Information

Documentation	Webpage
ESD Policy	https://rflambda.com/pdf/rflambda_esd_control.pdf
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
RPDT0018GB	Input connector SMA-Male and Output connector SMA-Female	0.01GHz-18GHz Power Detector

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