

## Wide Band Power Detector 0.01GHz- 40GHz



### Product Description

The RPDT0040GA is a coaxial power detector with a frequency range of 0.01 to 40GHz.

The max input power of the detector is 23dBm. The max VSWR of 2:1.

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

### Features

- Wide Band
- High Sensitivity
- Low VSWR

### 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<sub>A</sub>=+25°C)

| Parameter                 | Min  | Typ                                   | Max | Units |
|---------------------------|------|---------------------------------------|-----|-------|
| Frequency Range           | 0.01 |                                       | 40  | GHz   |
| VSWR                      |      | 1.5                                   | 2.0 | : 1   |
| Tss                       | -25  |                                       |     | dBm   |
| Sensitivity               | 0.1  | 0.3                                   |     | mv/uw |
| Input Power               |      |                                       | +23 | dBm   |
| Output Polarity           |      | Negative(-)                           |     |       |
| Weight                    |      | 0.03 Max.                             |     | lbs.  |
| Input / Output Connectors |      | 2.92mm-Male(Input)-SMA-Female(Output) |     |       |
| Package                   |      | Epoxy Sealed (Standard)               |     |       |
|                           |      | Hermetically Sealed (Optional)        |     |       |

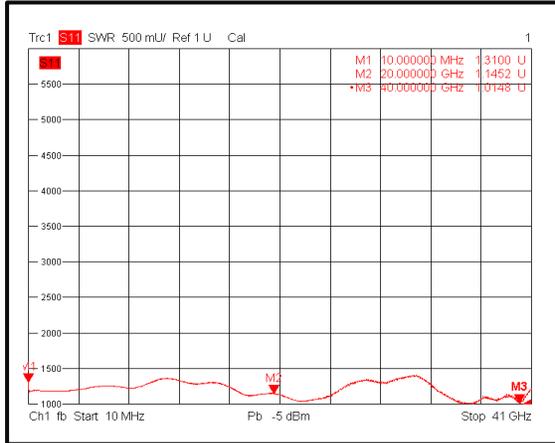
**Environmental Specifications and Test Standards**

| Parameter                         | Description   |
|-----------------------------------|---|
| Operational Temperature           | -40°C to +85°C<br>(Case Temperature)  |
| Storage Temperature               | -50°C to +105°C   |
| Thermal Shock                     | -40°C → +85°C<br>(5 Cycles / 10 hours)  |
| **Random Vibration                | MIL-STD-202G<br>Table 214-I, Test Condition Letter C<br>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<br>2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s<br>3. Total 18 times (6 directions, 3 repetitions per direction). |
| Altitude                          | Standard: 30,000 Ft (Epoxy Sealed Controlled Environment)<br>Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)   |
| Hermetically Sealed<br>(Optional) | MIL-STD-883 (For Hermetically Sealed Units)   |

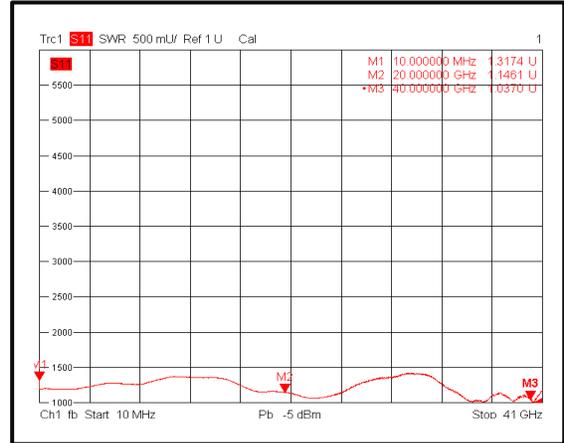
\*\*For vibration testing details please see additional information section.

**Typical Performance Plots**

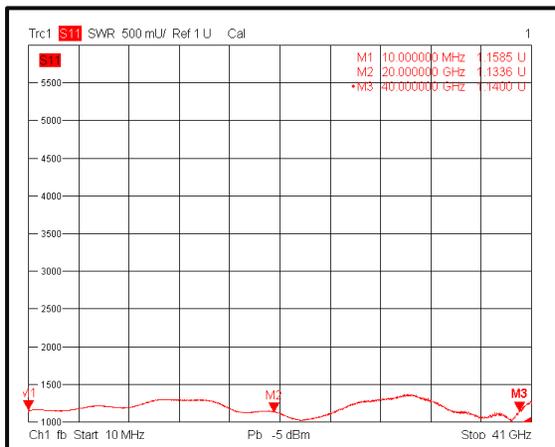
**VSWR @+25°C**



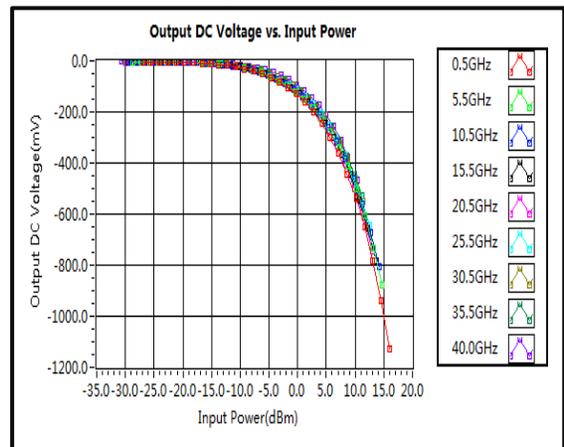
**VSWR @-40°C**



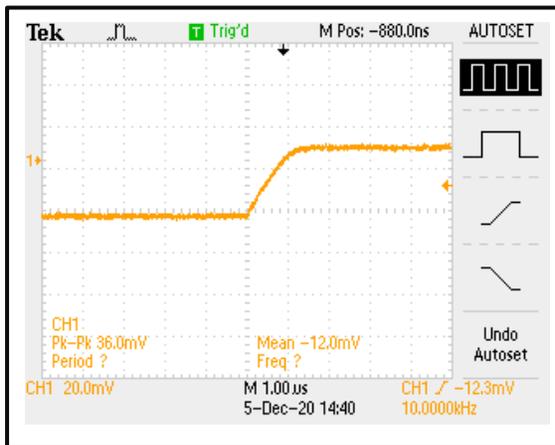
**VSWR @+85°C**



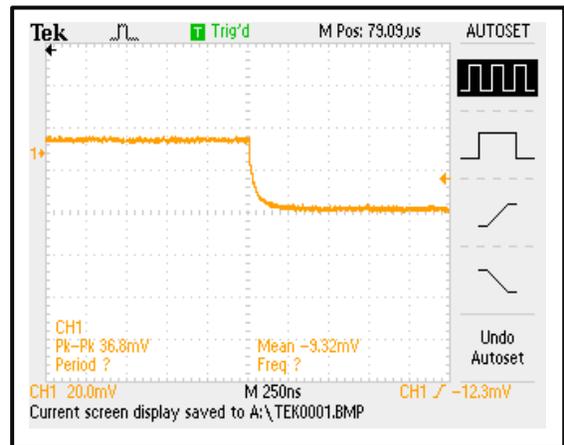
**Output DC Voltage vs. Input Power**



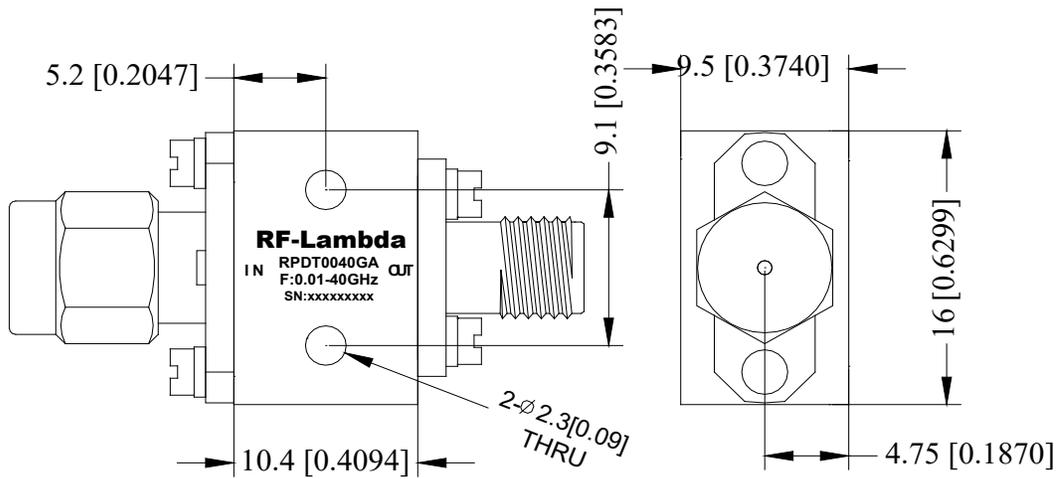
**Rise Time**



**Fall Time**

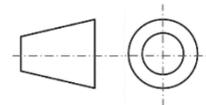


**Outline Drawing**



Notes:

1. Package Material: Aluminum
2. Finish: Gold
3. All dimensions are in millimeters [inches].
4. Tolerances  $\pm 0.1$  [0.004] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.



Additional Information

| Documentation                   | Webpage   |
|---------------------------------|---|
| ESD Policy                      | <a href="https://rflambda.com/pdf/rflambda_esd_control.pdf">https://rflambda.com/pdf/rflambda_esd_control.pdf</a>   |
| 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                  |
|-------------|--|------------------------------|
| RPDT0040GA  | Input connector 2.92mm-Male<br>and Output connector SMA-Female | 0.01GHz-40GHz Power Detector |

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