

100W Wide Band Power Limiter 0.05GHz-6GHz



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

Features

- Wide Band Power Limiter
- Passive, High Isolation Limiter
- Low Insertion Loss
- High Power Handling: 100W

Product Description

RFPLT00M06G-TNC is a wideband power limiter with a frequency range of 0.05 to 6GHz.

The max input power of the limiter is 100W. The typical insertion loss is 1.0 dB and flat leakage at > 30dBm input is 17dB.

The power limiter's connectors are TNC-Type.

The operating temperature of this product is -40 to +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 | | 0.05-1 | | | 1-6 | | GHz |
| Incident Power, CW, 50Ω, 50 °C | | | 30 | | | 30 | W |
| Incident Power, Pulsed PW = 10μs, DC = 10%, 50Ω, 50 °C | | | 100 | | | 100 | W |
| Insertion Loss | | 0.6 | 1.0 | | 1.5 | 2.0 | dB |
| VSWR | | 1.5 | | | 2 | | : 1 |
| Flat Leakage at PIN > 30 dBm | | 17 | | | 16.5 | | dBm |
| Peak Power Leakage | | 18 | | | 18 | | dBm |
| Switching Speed | | | | | 40 Typ. | | ns |
| Weight | Net | | | | / Max. | | lbs. |
| | Including Heat Sink | | | | / Max. | | |
| Input / Output Connectors | TNC-Female(Input) – TNC-Female(Output) | | | | | | |
| Package | Epoxy Sealed (Standard) | | | | | | |
| | Hermetically Sealed (Optional) | | | | | | |

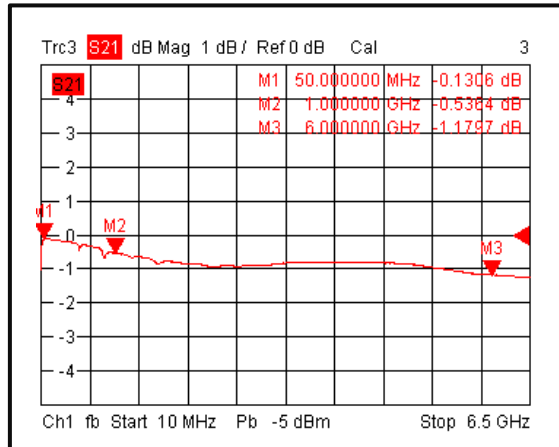
Note: DC Blocks Included.

Environmental Specifications and Test Standards

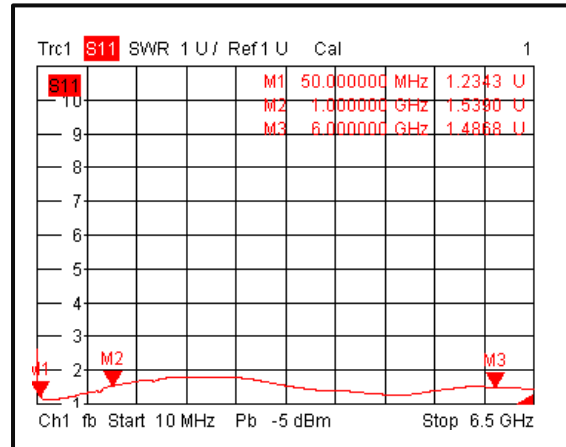
| Parameter | Description |
|-----------------------------------|---|
| Operational Temperature | -40°C to +85°C (Case Temperature) |
| Storage Temperature | -50°C to +105°C |
| Thermal Shock | -40°C → +85°C (5 Cycles / 10 hours) |
| **Random Vibration | MIL-STD-202G Table 214-I, Test Condition Letter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

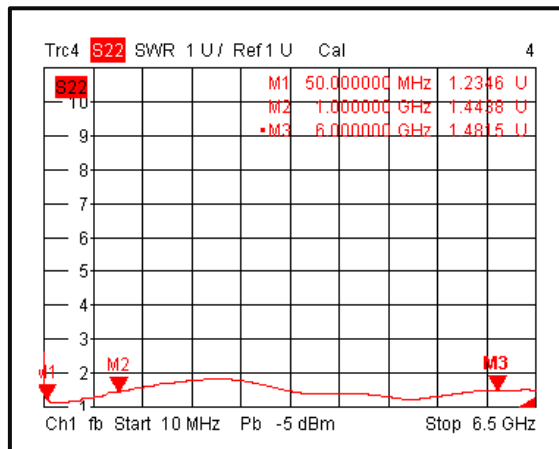
Insertion Loss @+25°C



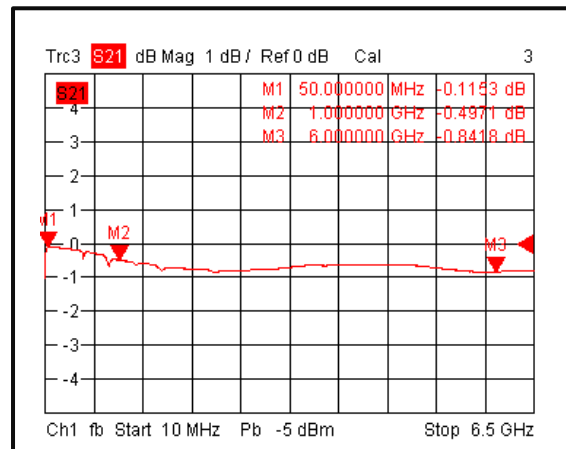
Input VSWR @+25°C



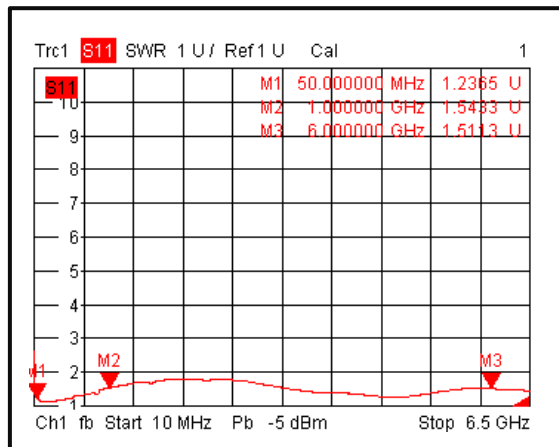
Output VSWR @+25°C



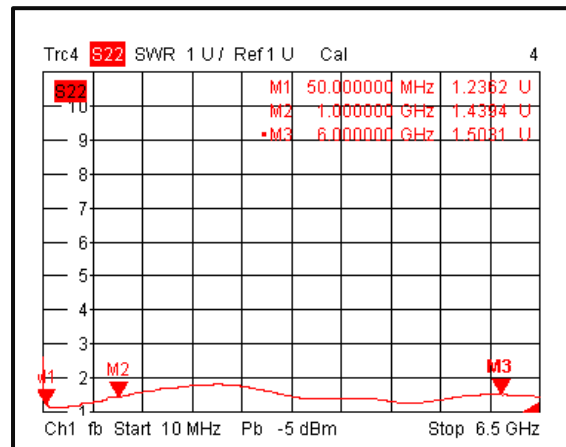
Insertion Loss @-40°C



Input VSWR @-40°C

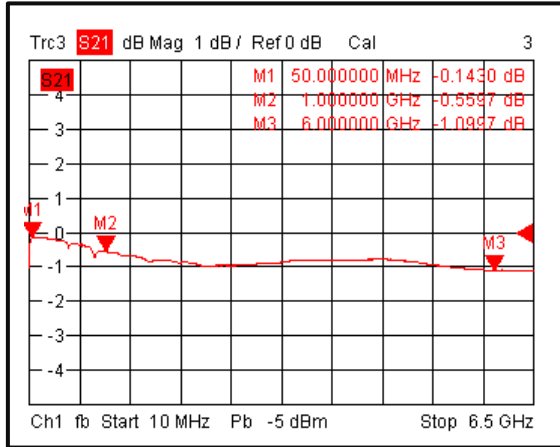


Output VSWR @-40°C

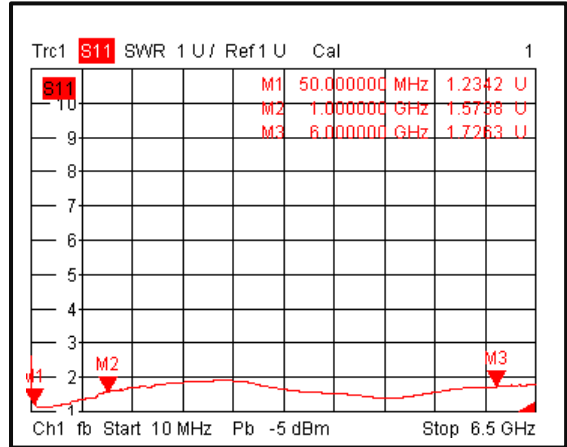


Typical Performance Plots

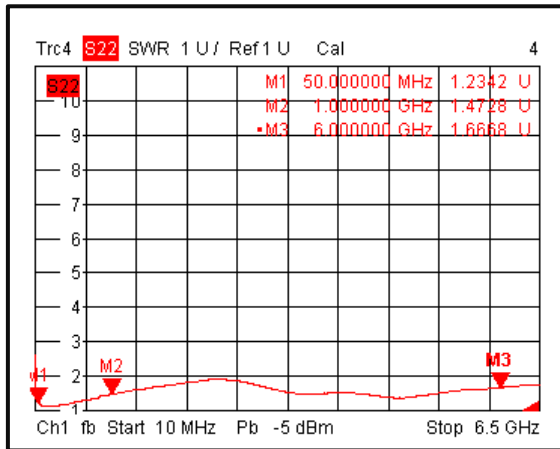
Insertion Loss @+85°C



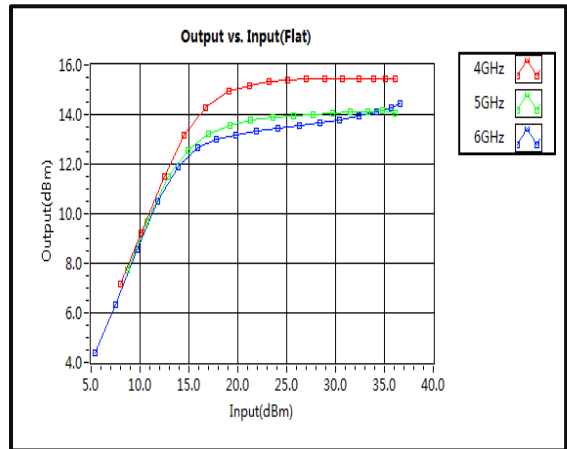
Input VSWR @+85°C



Output VSWR @+85°C



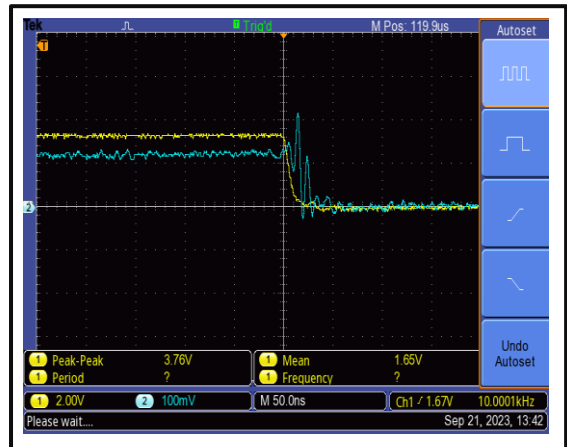
Flat Leakage Power



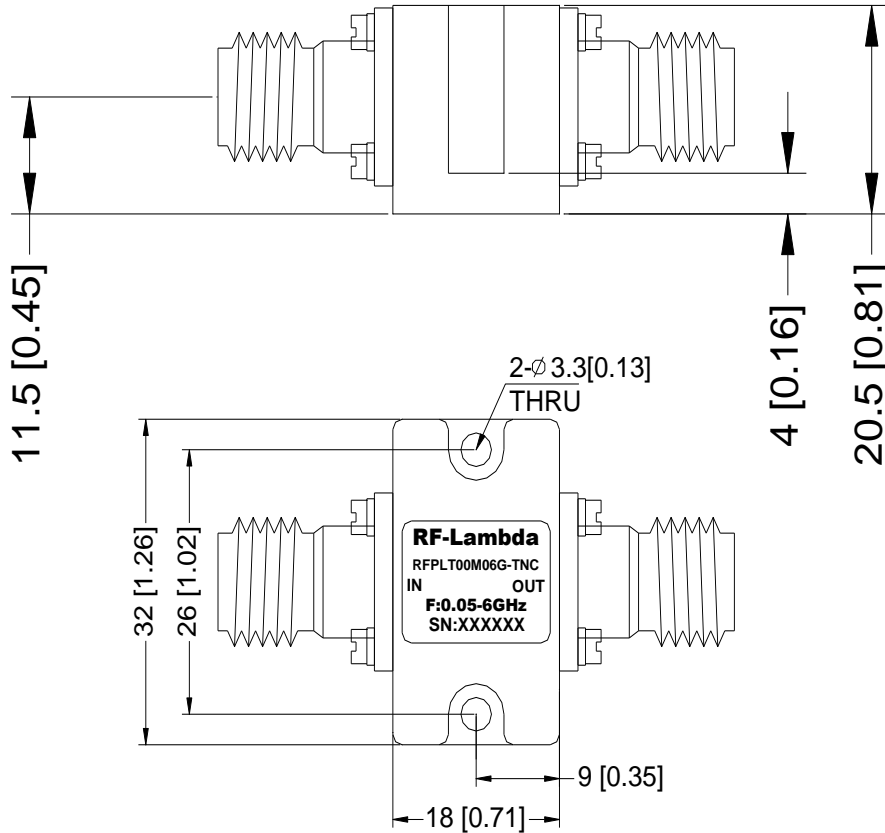
Recovery Time



Limiting Speed

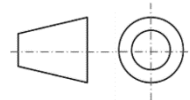


Outline Drawing



Notes:

1. Package Material: Aluminum
2. Finish: Gold Plated
3. All dimensions are in millimeters [inches].
4. Tolerances ± 0.15 [0.006] unless otherwise specified (Excl Heat Sink).
5. Heat sink required during operation (sold separately). Matching heatsink is listed on our website. If customer would like to use their own cooling method, please make sure the limiter will operate under the specs that listed in page 2 of this datasheet.
6. Power Handling is 30W for 30 minutes if heatsink is not used. Heatsink and Fan Included - Mandatory for full power operation, (Required for 100W Power Handling).
7. Standard torque wrench must be used to secure RF connectors.



Additional Information

| Documentation | Webpage |
|---------------------------------|---|
| ESD Policy | https://rflambda.com/pdf/rflambda_esd_control.pdf |
| Heatsink Lookup Specifications | https://rflambda.com/search_heatsink.jsp |
| 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 |
|-----------------|---------------------|----------------------------|
| RFPLT00M06G-TNC | Connectors TNC-Type | 0.05GHz-6GHz Power Limiter |

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