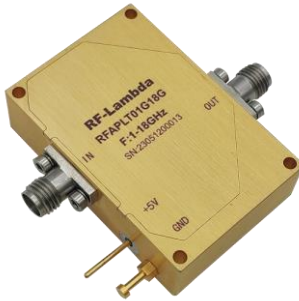


Input Over Drive Front End Protector 1GHz-18GHz



Product Description

RFAPLT01G18G is an input over drive front end protector with a frequency range of 1 to 18GHz.

The maximum input power of the limiter is 30dBm. The typical insertion loss is 3.5dB with a flat leakage of -20dBm.

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

Features

- Wide Band Operation 1-18GHz
- Passband:1-23GHz (Limiting only to 18GHz)
- Active, High Isolation Limiter
- Low Insertion Loss
- High Power Handle Capability up to 30dBm

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 | Units |
|--|--------------------------------------|------------|-----|-------|
| Frequency Range | 1 | | 18 | GHz |
| CW Input Power | | 30 | | dBm |
| Insertion Loss | | 3.5 | 4.0 | dB |
| VSWR | | 1.5 | 2.0 | : 1 |
| Flat Leakage Power at PIN = +30dBm | | -20 | -15 | dBm |
| Peak Power Leakage (at Pin≤33 dBm , 10% , 2us) | | -17 | | dBm |
| Voltage | | +5 | | V |
| Current | | 200 | | mA |
| Weight | | 0.084 Max. | | lbs. |
| Input / Output Connectors | SMA-Female(Input)-SMA-Female(Output) | | | |
| Package | Epoxy Sealed (Standard) | | | |
| | Hermetically Sealed (Optional) | | | |

Absolute Maximum Ratings

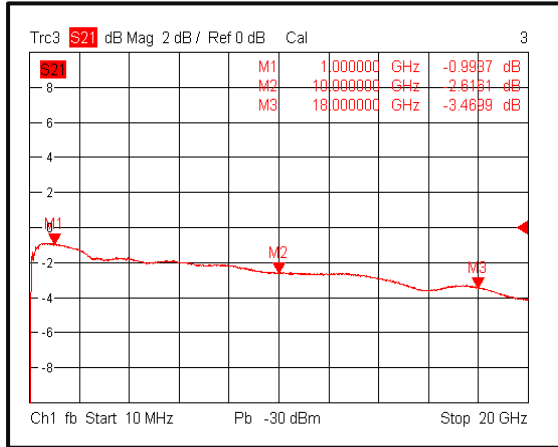
| Parameter | Rating |
|---------------------|--------|
| Voltage | +5.5V |
| RF Input Power (CW) | +33dBm |

Environmental Specifications and Test Standards

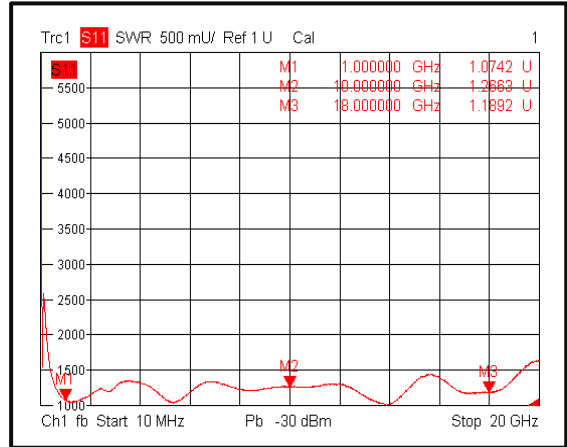
| Parameter | Description |
|-----------------------------------|---|
| Operational Temperature | -40°C to +85°C (Case Temperature) |
| Storage Temperature | -50°C to +105°C |
| Thermal Shock | -40°C → +85°C (5 Cycles / 10 hours) |
| **Random Vibration | MIL-STD-202G Table 214-I, Test Condition Letter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

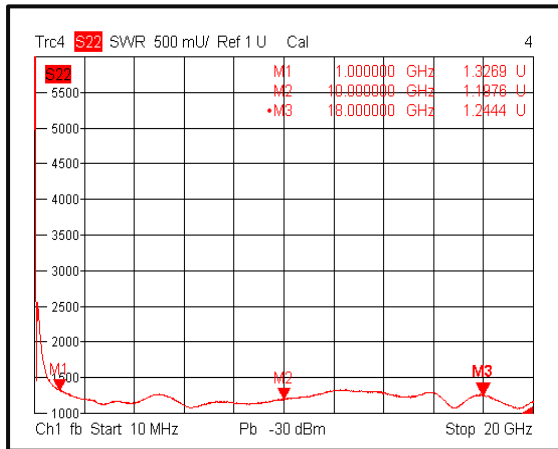
Insertion Loss @+25°C



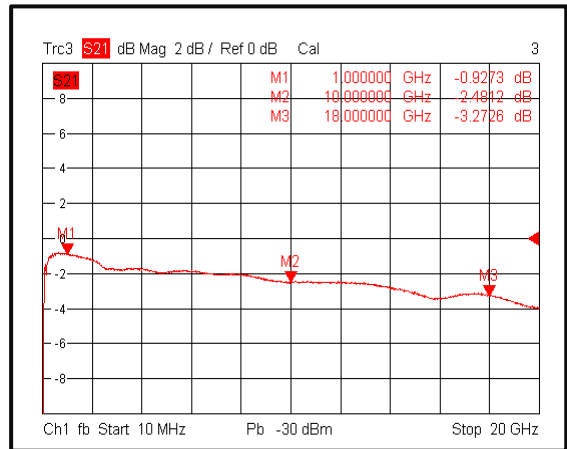
Input VSWR @+25°C



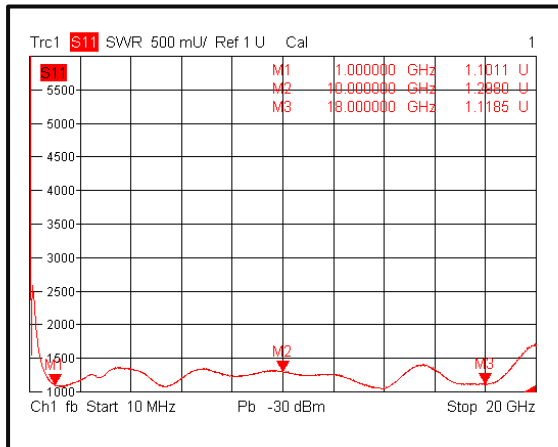
Output VSWR @+25°C



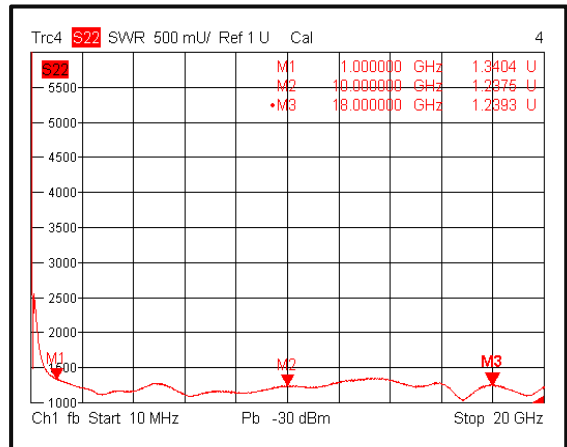
Insertion Loss @-40°C



Input VSWR @-40°C

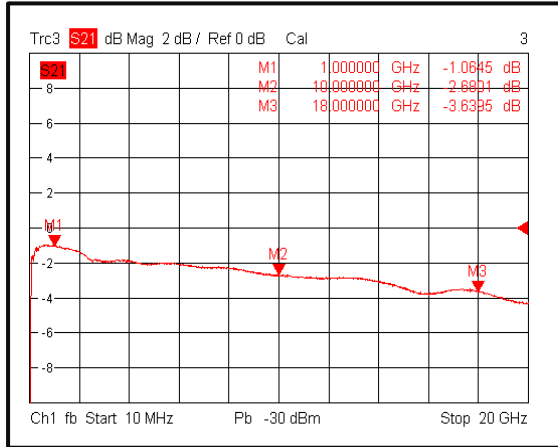


Output VSWR @-40°C

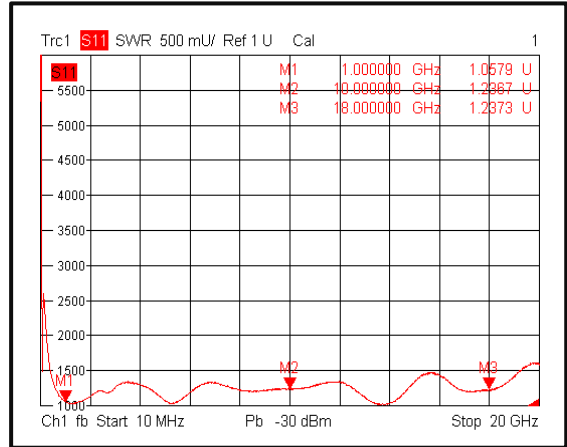


Typical Performance Plots

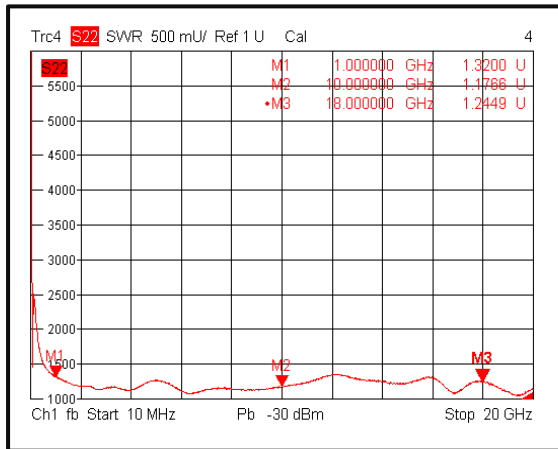
Insertion Loss @+85°C



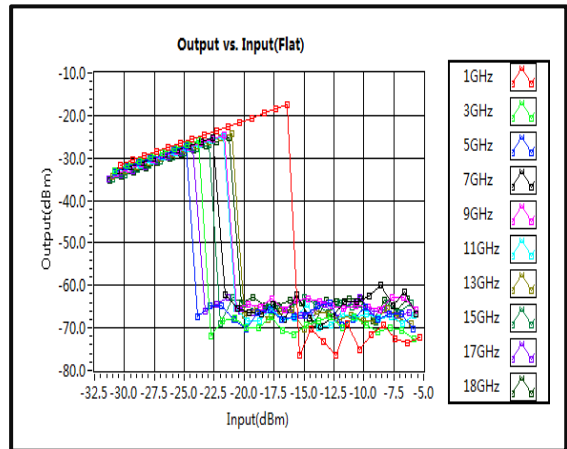
Input VSWR @+85°C



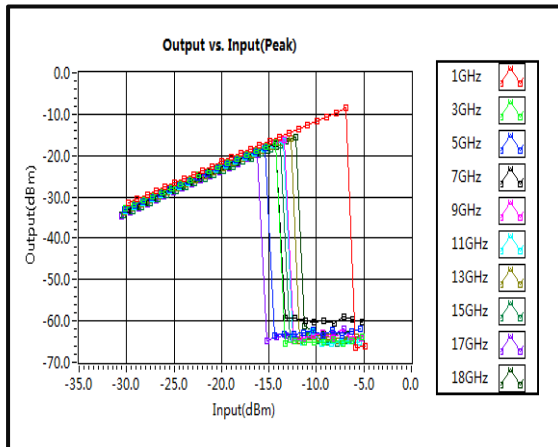
Output VSWR @+85°C



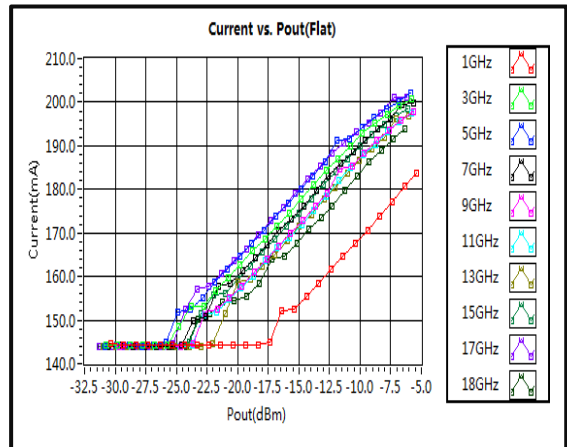
Flat Leakage Power



Peak Power Leakage

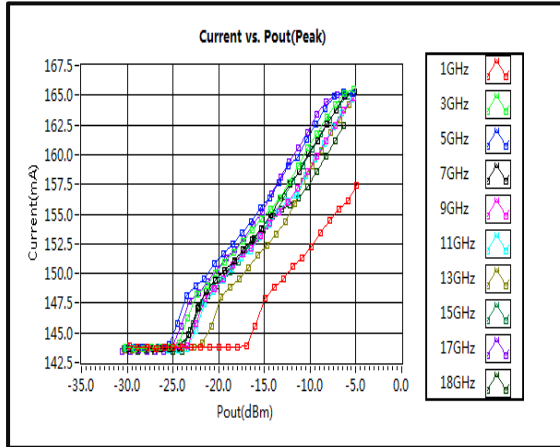


Current vs. Pout(Flat)

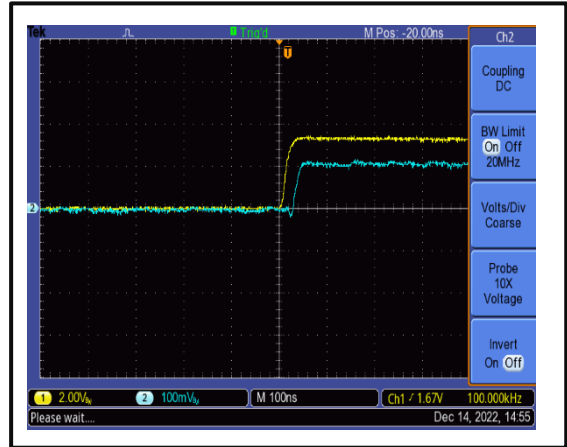


Typical Performance Plots

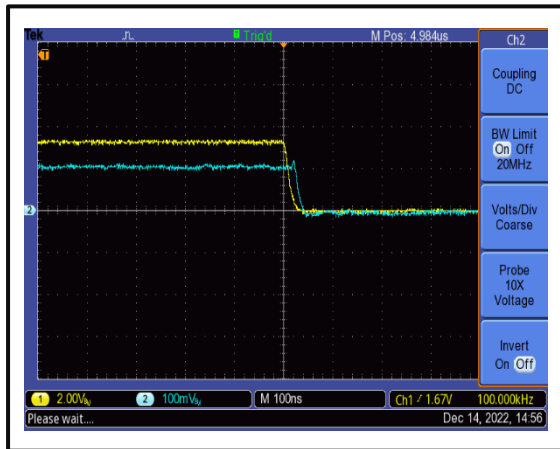
Current vs. Pout(Peak)



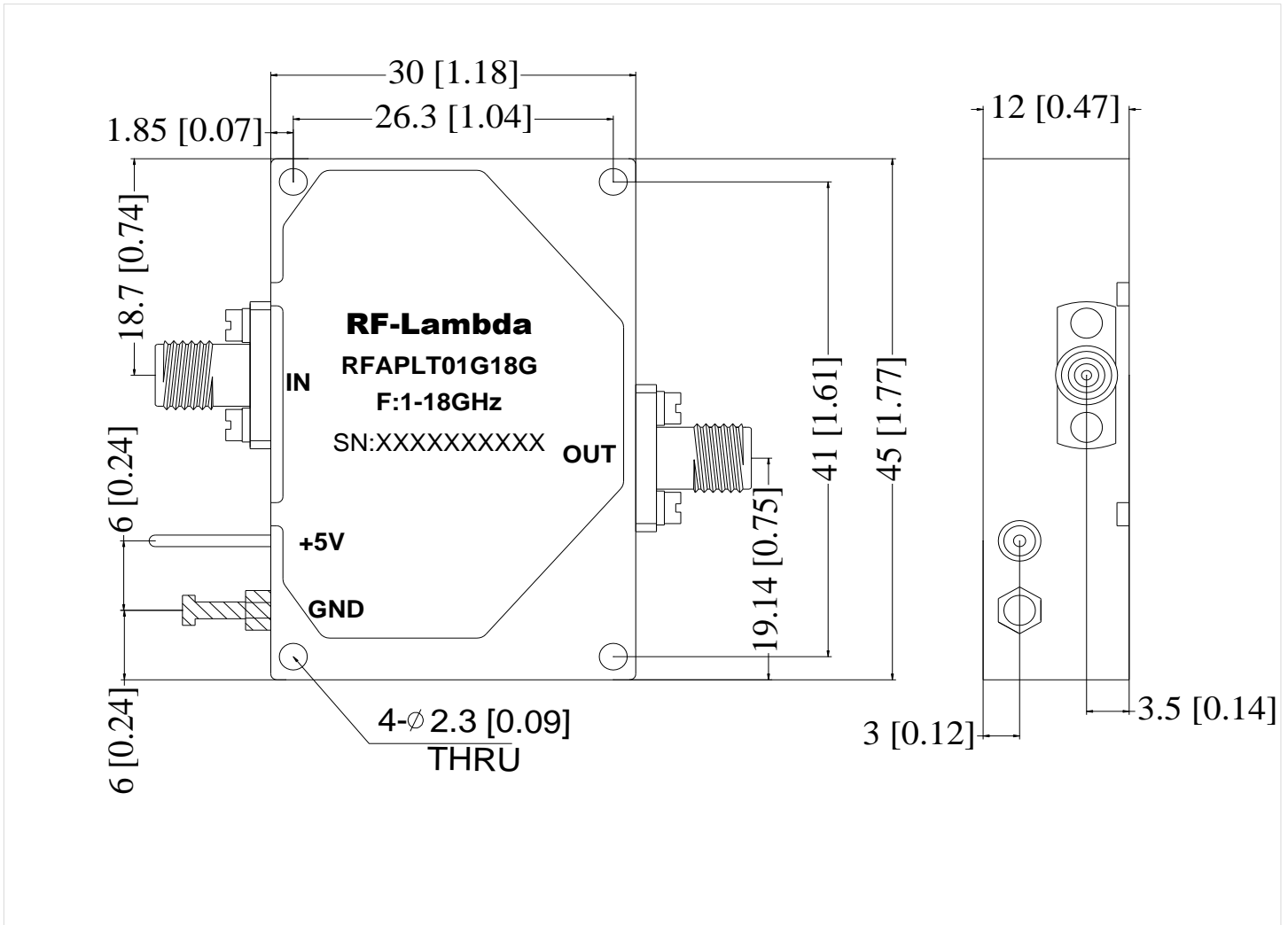
Speed



Speed

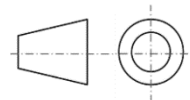


Outline Drawing



Notes:

1. Package Material: Aluminum
2. Finish: Gold Plated
3. All dimensions are in millimeters [inches].
4. Housing Tolerances ± 0.1 [0.004] 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 |
|--------------|--------------|--------------------------|
| RFAPLT01G18G | Standard | 1GHz-18GHz Power Limiter |

Important Notice

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