

+12 to +32 dBm

Limiter

RLM-63-2W+

50Ω Broadband 30 to 6000 MHz

Maximum Ratings

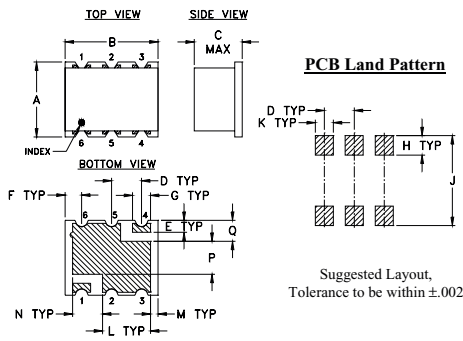
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Input Power | 2W |

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

| | |
|--------|---------|
| INPUT | 1 |
| OUTPUT | 4 |
| GROUND | 2,3,5,6 |

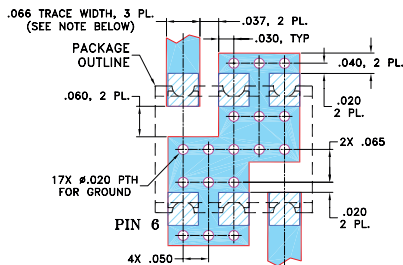
Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H |
|------|------|------|------|------|------|------|-------|
| .25 | .31 | .16 | .100 | .040 | .055 | .060 | .065 |
| 6.35 | 7.87 | 4.06 | 2.54 | 1.02 | 1.40 | 1.52 | 1.65 |
| J | K | L | M | N | P | Q | wt. |
| .300 | .060 | .160 | .025 | .100 | .110 | .070 | grams |
| 7.62 | 1.52 | 4.06 | 0.64 | 2.54 | 2.79 | 1.78 | 0.16 |

Demo Board MCL P/N: TB-393 Suggested PCB Layout (PL-258)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Features

- wideband, 30 to 6000 MHz
- low insertion loss 0.3 dB typ.
- fast recovery time, 10nsec typ.
- excellent VSWR 1.2:1 typ.
- low output power, 11.5 dBm typ.

Applications

- military, hi-rel applications
- stabilizing generator outputs
- reducing amplitude variations
- protects low noise amplifiers and other devices from ESD or input power damage



Generic photo used for illustration purposes only

CASE STYLE: TT1224

+RoHS Compliant

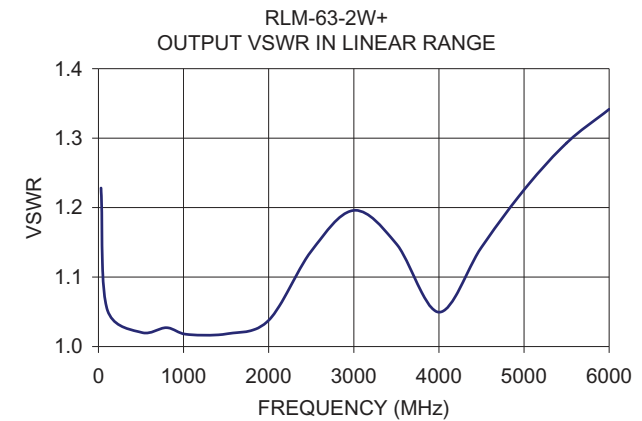
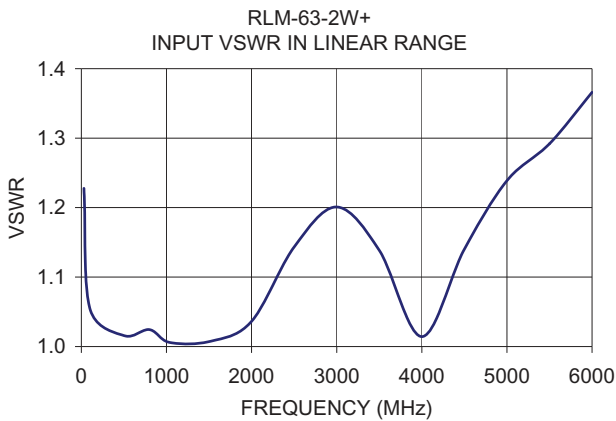
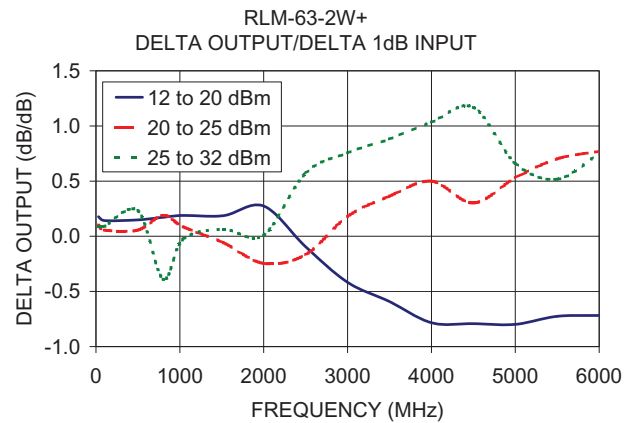
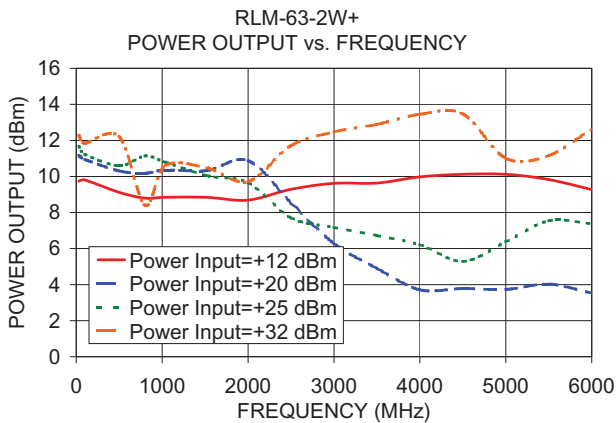
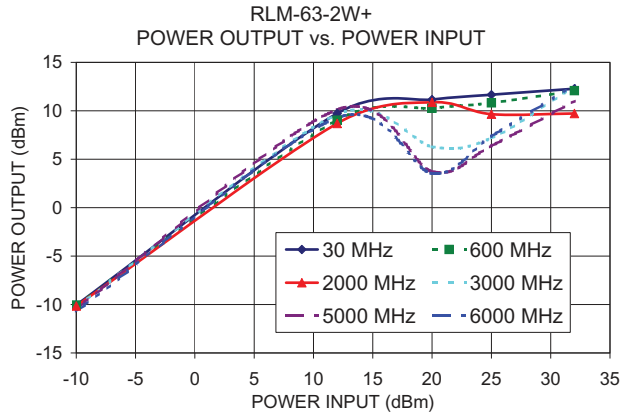
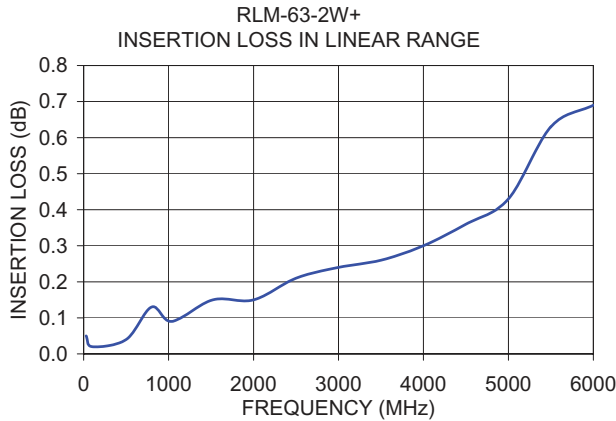
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

| Parameter | Condition | Min. | Typ. | Max. | Units |
|-------------------------------------|---|------|-------|------|-------|
| Frequency Range | | 30 | — | 6000 | MHz |
| Linear Range | | | | | |
| Max Input Power | less than 0.1 dB compression | — | — | 3 | dBm |
| Insertion Loss | less than +3 dBm input power | — | 0.3 | 1.3 | dB |
| VSWR | less than +3 dBm input power | — | 1.2 | 1.6 | :1 |
| Limiting Range | | | | | |
| Input Power | >1dB compression filtered signal frequency | +12 | — | +32 | dBm |
| Output Power | | — | +11.5 | — | dBm |
| Δ Output/ Δ 1dB Input | Input Power Range (dBm) | | | | |
| | 12 to 20 | — | 0.4 | — | |
| | 20 to 25 | — | 0.2 | — | |
| | 25 to 32 | — | 0.8 | — | dB/dB |
| Recovery Time | 1 watt pulse 50 μ sec pw 1kHz duty cycle recovery to within 90% of final value. | — | 10 | — | nsec |
| Response Time | -30 to +30 dBm input 50 μ sec PW 1 kHz duty cycle | — | 2 | — | nsec |

Typical Performance Data

| Freq. (MHz) | I. Loss (dB) in Linear Range at +3 dBm | VSWR (:1) in Linear Range at +3 dBm | Power Output (dBm) | | | | Δ Output / Δ 1dB Input | | |
|-------------|--|-------------------------------------|--------------------|---------------|---------------|--------------|--------------------------------------|----------------------|----------------------|
| | | | +12 dBm Input | +20 dBm Input | +25 dBm Input | +32dBm Input | +12 to +20 dBm Input | +20 to +25 dBm Input | +25 to +32 dBm Input |
| 30.00 | 0.05 | 1.23 | 9.74 | 11.16 | 11.66 | 12.28 | 0.18 | 0.10 | 0.09 |
| 100.00 | 0.02 | 1.06 | 9.81 | 10.95 | 11.23 | 11.85 | 0.14 | 0.06 | 0.09 |
| 500.00 | 0.04 | 1.02 | 9.12 | 10.31 | 10.59 | 12.21 | 0.15 | 0.06 | 0.23 |
| 800.00 | 0.13 | 1.02 | 8.80 | 10.18 | 11.13 | 8.41 | 0.17 | 0.19 | -0.39 |
| 1040.00 | 0.09 | 1.01 | 8.85 | 10.36 | 10.79 | 10.61 | 0.19 | 0.09 | -0.03 |
| 1520.00 | 0.15 | 1.01 | 8.84 | 10.33 | 10.04 | 10.48 | 0.19 | -0.06 | 0.06 |
| 2000.00 | 0.15 | 1.04 | 8.69 | 10.88 | 9.65 | 9.72 | 0.27 | -0.25 | 0.01 |
| 2500.00 | 0.21 | 1.14 | 9.29 | 8.53 | 7.70 | 11.71 | -0.10 | -0.17 | 0.57 |
| 3000.00 | 0.24 | 1.20 | 9.62 | 6.28 | 7.18 | 12.47 | -0.42 | 0.18 | 0.76 |
| 3500.00 | 0.26 | 1.14 | 9.63 | 4.90 | 6.72 | 12.89 | -0.59 | 0.36 | 0.88 |
| 4000.00 | 0.30 | 1.01 | 9.98 | 3.71 | 6.21 | 13.45 | -0.78 | 0.50 | 1.03 |
| 4500.00 | 0.36 | 1.14 | 10.12 | 3.78 | 5.29 | 13.47 | -0.79 | 0.30 | 1.17 |
| 5000.00 | 0.43 | 1.24 | 10.12 | 3.73 | 6.38 | 11.01 | -0.80 | 0.53 | 0.66 |
| 5500.00 | 0.63 | 1.29 | 9.83 | 4.03 | 7.54 | 11.16 | -0.73 | 0.70 | 0.52 |
| 6000.00 | 0.69 | 1.37 | 9.27 | 3.53 | 7.38 | 12.63 | -0.72 | 0.77 | 0.75 |



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