

Surface Mount Power Splitter/Combiner

LRPS-2-1+ LRPS-2-1

2 Way-0° 50Ω 5 to 500 MHz

Maximum Ratings

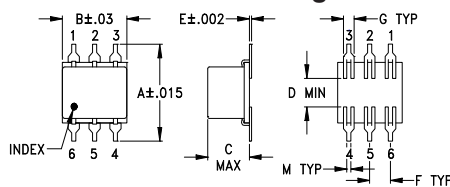
| | |
|-----------------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 1W max. |
| Internal Dissipation | 0.125W max. |

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

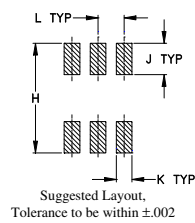
Pin Connections

| | |
|----------|-----|
| SUM PORT | 6 |
| PORT 1 | 4 |
| PORT 2 | 3 |
| GROUND | 1 |
| NOT USED | 2,5 |

Outline Drawing



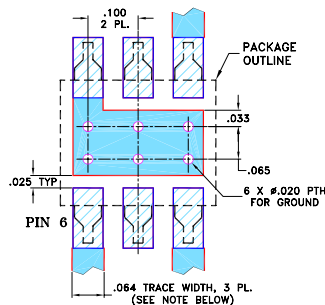
PCB Land Pattern



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G |
|-------|------|------|------|------|-------|------|
| .400 | .31 | .200 | .10 | .010 | .100 | .050 |
| 10.16 | 7.87 | 5.08 | 2.54 | 0.25 | 2.54 | 1.27 |
| H | J | K | L | M | wt | |
| .420 | .120 | .060 | .100 | .020 | grams | |
| 10.67 | 3.05 | 1.52 | 2.54 | 0.51 | 0.55 | |

Demo Board MCL P/N: TB-94 Suggested PCB Layout (PL-236)



- NOTES:
- 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.
 - 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

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

- low insertion loss, 0.3 dB typ.
- high isolation, 33 dB typ.

Applications

- VHF/UHF
- instrumentation
- communications systems



Generic photo used for illustration purposes only

CASE STYLE: QQQ130

+RoHS Compliant

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

Electrical Specifications

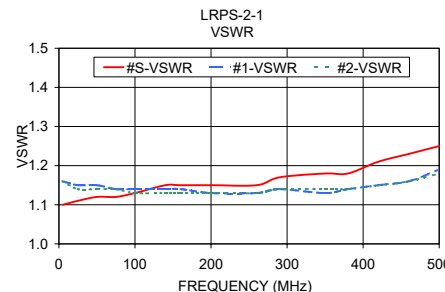
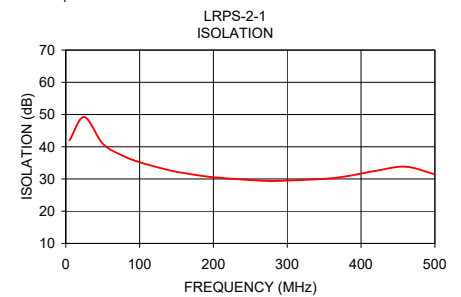
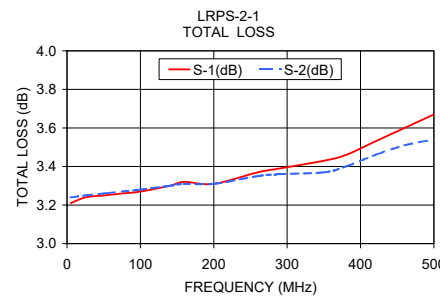
| FREQ. RANGE (MHz) | ISOLATION (dB) | | | | | | INSERTION LOSS (dB) ABOVE 3.0 dB | | | | | | PHASE UNBALANCE (Degrees) | | | AMPLITUDE UNBALANCE (dB) | | |
|-------------------|----------------|-----|------|-----|------|-----|----------------------------------|------|------|------|------|------|---------------------------|------|------|--------------------------|------|------|
| | L | | M | | U | | L | | M | | U | | L | M | U | L | M | U |
| $f_c - f_u$ | Typ. | Min | Typ. | Min | Typ. | Min | Typ. | Max. | Typ. | Max. | Typ. | Max. | Max. | Max. | Max. | Max. | Max. | Max. |
| 5-500 | 50 | 25 | 33 | 24 | 30 | 23 | 0.25 | 0.5 | 0.3 | 0.6 | 0.5 | 1.2 | 1.0 | 2.0 | 3.0 | 0.15 | 0.2 | 0.3 |

L = 5-50 MHz M = 50-250 MHz U = 250-500 MHz

Typical Performance Data

| Frequency (MHz) | Total Loss ¹ (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
| | S-1 | S-2 | | | | | | |
| 5.00 | 3.21 | 3.24 | 0.02 | 41.95 | 0.05 | 1.10 | 1.16 | 1.16 |
| 25.00 | 3.24 | 3.25 | 0.01 | 49.21 | 0.01 | 1.11 | 1.15 | 1.14 |
| 50.00 | 3.25 | 3.26 | 0.01 | 40.99 | 0.08 | 1.12 | 1.15 | 1.14 |
| 75.00 | 3.26 | 3.27 | 0.01 | 37.46 | 0.11 | 1.12 | 1.14 | 1.14 |
| 100.00 | 3.27 | 3.28 | 0.00 | 35.20 | 0.11 | 1.13 | 1.14 | 1.13 |
| 140.00 | 3.30 | 3.30 | 0.00 | 32.73 | 0.14 | 1.15 | 1.14 | 1.13 |
| 160.00 | 3.32 | 3.31 | 0.00 | 31.85 | 0.20 | 1.15 | 1.14 | 1.13 |
| 200.00 | 3.31 | 3.31 | 0.01 | 30.54 | 0.22 | 1.15 | 1.13 | 1.13 |
| 260.00 | 3.37 | 3.35 | 0.03 | 29.54 | 0.18 | 1.15 | 1.13 | 1.13 |
| 290.00 | 3.39 | 3.36 | 0.03 | 29.42 | 0.26 | 1.17 | 1.14 | 1.14 |
| 350.00 | 3.43 | 3.37 | 0.06 | 30.05 | 0.38 | 1.18 | 1.13 | 1.14 |
| 380.00 | 3.46 | 3.40 | 0.05 | 30.83 | 0.40 | 1.18 | 1.14 | 1.14 |
| 420.00 | 3.53 | 3.46 | 0.07 | 32.52 | 0.37 | 1.21 | 1.15 | 1.15 |
| 460.00 | 3.60 | 3.51 | 0.09 | 33.81 | 0.28 | 1.23 | 1.16 | 1.16 |
| 500.00 | 3.67 | 3.54 | 0.13 | 31.45 | 0.23 | 1.25 | 1.19 | 1.18 |

1. Total Loss = Insertion Loss + 3dB splitter loss.



electrical schematic



Mini-Circuits

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