

Power Splitter/Combiner

AMT-2+

2 Way-0°/180° 50Ω 50 to 200 MHz



Generic photo used for illustration purposes only
CASE STYLE: CD636

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

Available Tape and Reel at no extra cost

| Reel Size | Devices/Reel |
|-----------|------------------|
| 7" | 20, 50, 100, 200 |
| 13" | 500, 1000 |

Maximum Ratings

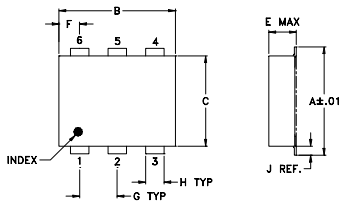
| | |
|-----------------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 0.5W max. |
| Internal Dissipation | 0.125W max. |

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

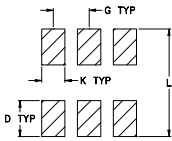
Pin Connections

| | |
|----------|-----|
| SUM PORT | 3 |
| PORT 1 | 6 |
| PORT 2 | 4 |
| PORT J | 1 |
| GROUND | 2,5 |

Outline Drawing



PCB Land Pattern

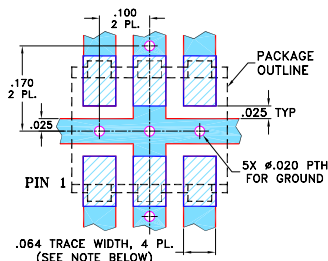


Suggested Layout.
Tolerance to be within ±0.02

Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G |
|------|------|------|------|-------|------|------|
| .272 | .310 | .220 | .100 | .162 | .055 | .100 |
| 6.91 | 7.87 | 5.59 | 2.54 | 4.11 | 1.40 | 2.54 |
| H | J | K | L | wt | | |
| .030 | .026 | .065 | .300 | grams | | |
| 0.76 | 0.66 | 1.65 | 7.62 | 0.25 | | |

Demo Board MCL P/N: TB-211 Suggested PCB Layout (PL-097)



- 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-Circuits' 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

- low insertion S-1 and S-2, 0.25 dB typ; J-1 and J-2, 0.8 dB typ.
- very good input VSWR, 1.10 typ. and good output VSWR, 1.12 typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 1 deg. typ.
- high isolation S-J ports and 1-2 ports, 35 dB typ.
- protected under US Patent 6,133,525

Applications

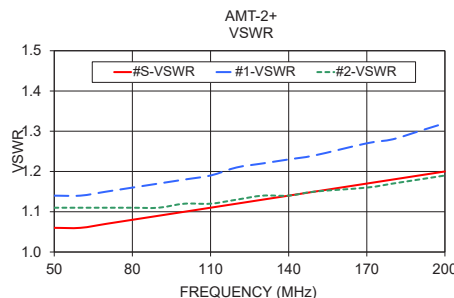
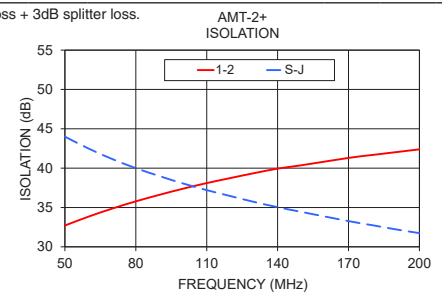
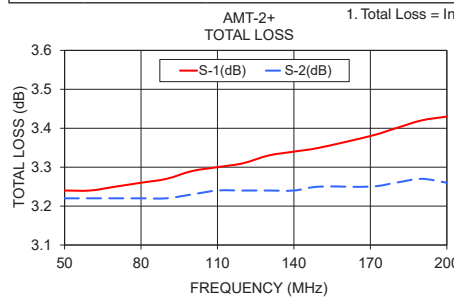
- satellite
- IF receiver

Electrical Specifications

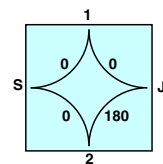
| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS (dB) ABOVE 3.0 dB | | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) |
|--------------------------------|----------------|------|----------------------------------|------|---------------------------|--------------------------|
| | Typ. | Min. | Typ. | Max. | Max. | Max. |
| f _L -f _H | 35 | 20 | 0.8 | 1.2 | 2 | 0.3 |

Typical Performance Data

| Freq. (MHz) | Total Loss ¹ (dB) | | Amplitude Unbal. (dB) | Insertion Loss (dB) | | Amplitude Unbal. (dB) | Isolation (dB) | | Phase Unbal. (deg.) | | VSWR S | VSWR 1 | VSWR 2 |
|-------------|------------------------------|------|-----------------------|---------------------|------|-----------------------|----------------|-------|---------------------|-------------|--------|--------|--------|
| | S-1 | S-2 | (S-1)-(S-2) | J-1 | J-2 | (J-1)-(J-2) | 1-2 | S-J | (S-1)-(S-2) | (J-1)-(J-2) | | | |
| 50.00 | 3.24 | 3.22 | 0.02 | 3.76 | 3.77 | 0.00 | 32.71 | 44.00 | 0.05 | 179.87 | 1.06 | 1.14 | 1.11 |
| 60.00 | 3.24 | 3.22 | 0.02 | 3.76 | 3.77 | 0.00 | 33.84 | 42.49 | 0.06 | 179.87 | 1.06 | 1.14 | 1.11 |
| 70.00 | 3.25 | 3.22 | 0.03 | 3.77 | 3.77 | 0.01 | 34.86 | 41.16 | 0.02 | 179.81 | 1.07 | 1.15 | 1.11 |
| 80.00 | 3.26 | 3.22 | 0.04 | 3.77 | 3.77 | 0.01 | 35.78 | 40.00 | 0.05 | 179.80 | 1.08 | 1.16 | 1.11 |
| 90.00 | 3.27 | 3.22 | 0.05 | 3.77 | 3.78 | 0.02 | 36.61 | 38.99 | 0.04 | 179.79 | 1.09 | 1.17 | 1.11 |
| 100.00 | 3.29 | 3.23 | 0.05 | 3.78 | 3.79 | 0.01 | 37.39 | 38.05 | 0.02 | 179.79 | 1.10 | 1.18 | 1.12 |
| 110.00 | 3.30 | 3.24 | 0.06 | 3.78 | 3.81 | 0.02 | 38.10 | 37.21 | 0.05 | 179.79 | 1.11 | 1.19 | 1.12 |
| 120.00 | 3.31 | 3.24 | 0.07 | 3.80 | 3.82 | 0.02 | 38.74 | 36.45 | 0.02 | 179.75 | 1.12 | 1.21 | 1.13 |
| 130.00 | 3.33 | 3.24 | 0.09 | 3.80 | 3.82 | 0.02 | 39.36 | 35.71 | 0.00 | 179.73 | 1.13 | 1.22 | 1.14 |
| 140.00 | 3.34 | 3.24 | 0.10 | 3.81 | 3.84 | 0.03 | 39.94 | 35.04 | 0.02 | 179.69 | 1.14 | 1.23 | 1.14 |
| 150.00 | 3.35 | 3.25 | 0.11 | 3.81 | 3.85 | 0.03 | 40.36 | 34.44 | 0.02 | 179.68 | 1.15 | 1.24 | 1.15 |
| 170.00 | 3.38 | 3.25 | 0.13 | 3.82 | 3.87 | 0.05 | 41.30 | 33.27 | 0.09 | 179.72 | 1.17 | 1.27 | 1.16 |
| 180.00 | 3.40 | 3.26 | 0.14 | 3.83 | 3.88 | 0.05 | 41.67 | 32.75 | 0.06 | 179.68 | 1.18 | 1.28 | 1.17 |
| 190.00 | 3.42 | 3.27 | 0.16 | 3.84 | 3.90 | 0.06 | 42.03 | 32.22 | 0.10 | 179.68 | 1.19 | 1.30 | 1.18 |
| 200.00 | 3.43 | 3.26 | 0.17 | 3.85 | 3.91 | 0.06 | 42.39 | 31.74 | 0.15 | 179.68 | 1.20 | 1.32 | 1.19 |



electrical schematic



- S-J ports, isolation 40 typical
- Inphase ports, S-1 and S-2 insertion loss 0.2 dB typical
- Amplitude unbalance defined by input S or J ports to output 1 and 2