*Surface Mount*

# 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

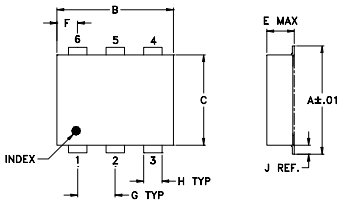
| | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 0.5W max. |
| Internal Dissipation | 0.125W max. |

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

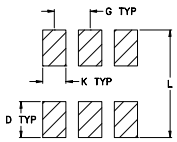
### Pin Connections

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

### Outline Drawing




PCB Land Pattern



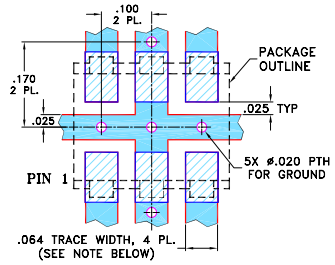

Suggested Layout,
Tolerance to be within ±.002

### 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

### 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

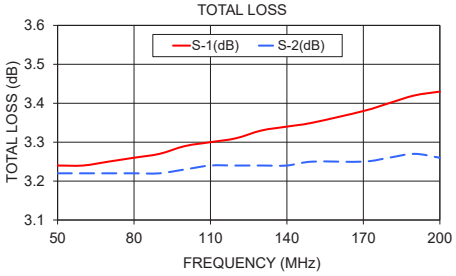
| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS (dB) ABOVE 3.0 dB | | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) |
|---|---|---|---|---|---|---|
| $f_L$-$f_U$ | Typ. | Min. | Typ. | Max. | Max. | Max. |
| 50-200 | 35 | 20 | 0.8 | 1.2 | 2 | 0.3 |

### Typical Performance Data

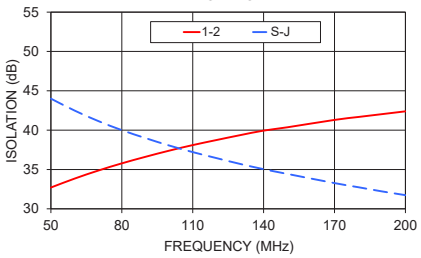
| Freq. (MHz) | Total Loss[1] (dB) | | Amplitude Unbal. (dB) | Insertion Loss (dB) | | Amplitude Unbal. (dB) | Isolation (dB) | | Phase Unbal. (deg.) | | VSWR S | VSWR 1 | VSWR 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | S-1 | S-2 | (S-1)-(S-2) | J-1 | J-2 | (J-1)-(J-2) | 1-2 | 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 |

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

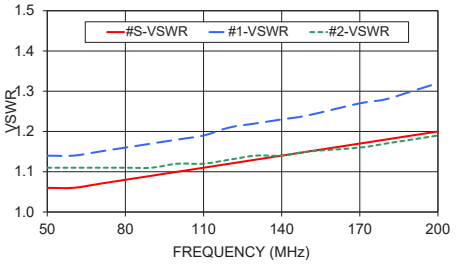
AMT-2+
TOTAL LOSS



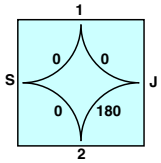

AMT-2+
ISOLATION




AMT-2+
VSWR




### 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

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.
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