

Power Splitter/Combiner

SBTC-2-15-75LX+

2 Way-0° 75Ω

500 to 1500 MHz



Leads
CASE STYLE: AT1739
PRICE: \$3.64 ea. QTY (20)
\$2.84 ea. QTY (1000)

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

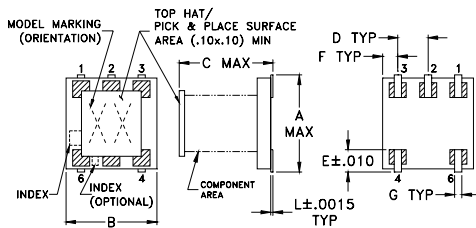
Maximum Ratings

| | |
|-----------------------------|----------------|
| 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. |

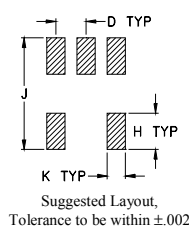
Pin Connections

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

Outline Drawing



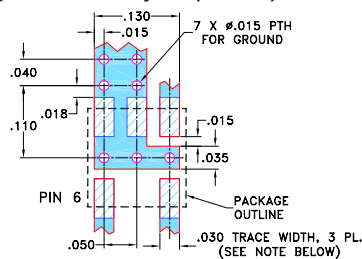
PCB Land Pattern



Outline Dimensions (inch/mm)

| A | B | C | D | E | F |
|------|------|------|------|------|-------|
| .166 | .150 | .155 | .050 | .037 | .025 |
| 4.22 | 3.81 | 3.94 | 1.27 | 0.94 | 0.64 |
| G | H | J | K | K | wt |
| .012 | .060 | .184 | .030 | .004 | grams |
| 0.30 | 1.52 | 4.67 | 0.76 | 0.10 | 0.10 |

Demo Board MCL P/N: TB-277 Suggested PCB Layout (PL-153)



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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 loss, 0.8 dB typ.
- excellent isolation 28 dB typ.
- very good phase unbalance, 1 deg. typ.
- small size, 0.166"x0.150"x0.155"
- temperature stable LTCC base
- small size
- low cost
- aqueous washable
- protected by US patent 6,963,255

Applications

- internet over satellite modems
- VSAT

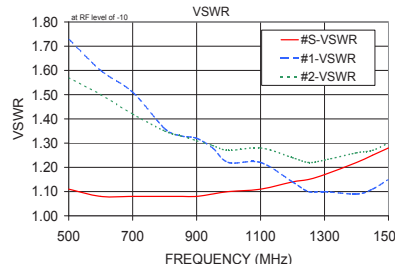
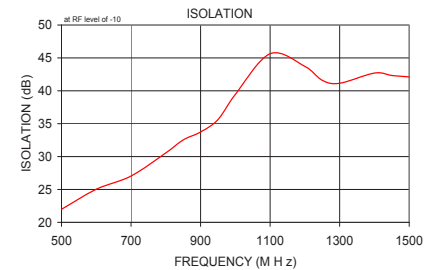
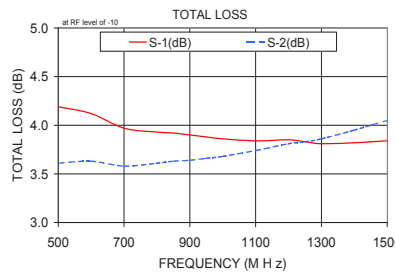
Electrical Specifications

| 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. |
| 500-1500 | 28 18 | 0.8 1.5 | 5 | 0.9 |
| 700-1500 | 28 20 | 0.8 1.5 | 4 | 0.7 |

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 | | | | | | |
| 500.00 | 4.19 | 3.61 | 0.58 | 21.98 | 1.92 | 1.11 | 1.73 | 1.57 |
| 600.00 | 4.12 | 3.63 | 0.49 | 25.03 | 1.30 | 1.08 | 1.60 | 1.50 |
| 700.00 | 3.97 | 3.58 | 0.39 | 27.04 | 0.91 | 1.08 | 1.51 | 1.42 |
| 800.00 | 3.93 | 3.61 | 0.32 | 30.56 | 0.59 | 1.08 | 1.36 | 1.35 |
| 850.00 | 3.92 | 3.63 | 0.29 | 32.53 | 0.44 | 1.08 | 1.33 | 1.33 |
| 900.00 | 3.90 | 3.64 | 0.25 | 33.74 | 0.29 | 1.08 | 1.32 | 1.31 |
| 950.00 | 3.88 | 3.66 | 0.22 | 35.62 | 0.20 | 1.09 | 1.28 | 1.29 |
| 1000.00 | 3.86 | 3.68 | 0.18 | 39.45 | 0.15 | 1.10 | 1.22 | 1.27 |
| 1100.00 | 3.84 | 3.74 | 0.10 | 45.64 | 0.17 | 1.11 | 1.22 | 1.28 |
| 1200.00 | 3.85 | 3.81 | 0.04 | 43.71 | 0.19 | 1.14 | 1.14 | 1.24 |
| 1250.00 | 3.83 | 3.83 | 0.03 | 41.60 | 0.21 | 1.15 | 1.10 | 1.22 |
| 1300.00 | 3.81 | 3.86 | 0.05 | 41.15 | 0.19 | 1.17 | 1.10 | 1.23 |
| 1400.00 | 3.82 | 3.95 | 0.13 | 42.70 | 0.21 | 1.22 | 1.09 | 1.26 |
| 1450.00 | 3.83 | 4.00 | 0.17 | 42.33 | 0.24 | 1.25 | 1.11 | 1.27 |
| 1500.00 | 3.84 | 4.05 | 0.21 | 42.11 | 0.30 | 1.28 | 1.15 | 1.30 |

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



electrical schematic



For detailed performance specs & shopping online see web site



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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.

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