

Surface Mount

Power Splitter/Combiner

2 Way-0° 50Ω

200 to 2000 MHz

SBTC-2-20X+



No Leads

CASE STYLE:AT1667
PRICE:\$3.49 ea. QTY (20)
\$2.69 ea. QTY (1000)

+RoHS Compliant

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

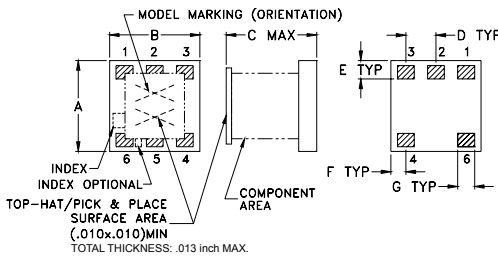
Maximum Ratings

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

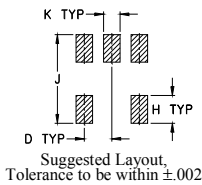
Pin Connections

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

Outline Drawing



PCB Land Pattern

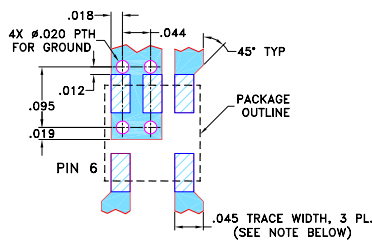


Outline Dimensions (inch/mm)

| A | B | C | D | E | F | |
|------|------|------|------|------|------|-------|
| .150 | .150 | .150 | .050 | .030 | .025 | |
| 3.81 | 3.81 | 3.81 | 1.27 | 0.76 | 0.64 | |
| G | H | J | K | | | wt |
| .028 | .050 | .160 | .030 | | | grams |
| 0.71 | 1.27 | 4.06 | 0.76 | | | 0.10 |

Demo Board MCL P/N: TB-274

Suggested PCB Layout (PL-152)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; 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

- wide band frequency, 200-2000 MHz
- excellent amplitude unbalance, 0.2 dB typ.
- small size, 0.166"x0.15"x0.155"
- temperature stable LTCC base
- small size
- low cost
- aqueous washable
- protected by US patent 6,963,255

Applications

- cellular/GSM
- UHF/VHF receivers/transmitters
- PCN/PCS
- GPS
- VSAT

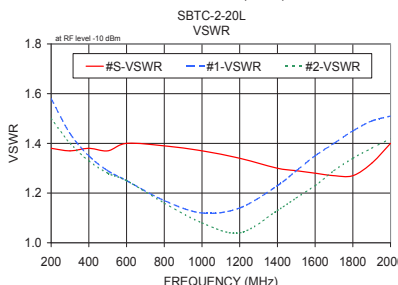
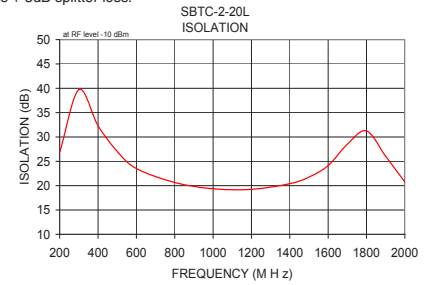
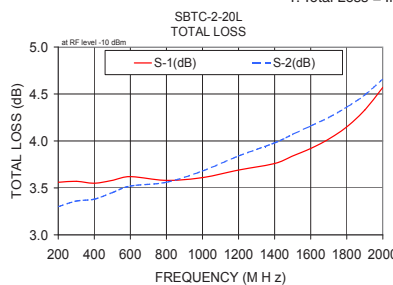
Electrical Specifications

| FREQ. RANGE (MHz) f_L - f_U | ISOLATION (dB) | | INSERTION LOSS (dB) ABOVE 3.0 dB | | PHASE UNBALANCE (Degrees) Max. | AMPLITUDE UNBALANCE (dB) Max. |
|------------------------------------|----------------|------|----------------------------------|------|--------------------------------|-------------------------------|
| | Typ. | Min. | Typ. | Max. | | |
| 200-2000 | 20 | 14 | 0.8 | 2.2 | 10 | 0.8 |
| 800-1000 | 22 | 16 | 0.5 | 0.9 | 3 | 0.5 |
| 500-1500 | 22 | 15 | 0.5 | 1.5 | 5 | 0.7 |
| 1800-2000 | 20 | 15 | 1.2 | 2.2 | 10 | 0.6 |

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 | | | | | | |
| 200.00 | 3.56 | 3.30 | 0.26 | 26.85 | 1.44 | 1.38 | 1.58 | 1.50 |
| 300.00 | 3.57 | 3.36 | 0.21 | 39.72 | 0.88 | 1.37 | 1.44 | 1.40 |
| 400.00 | 3.55 | 3.38 | 0.17 | 32.31 | 0.56 | 1.38 | 1.35 | 1.33 |
| 500.00 | 3.58 | 3.45 | 0.13 | 27.04 | 0.36 | 1.37 | 1.29 | 1.28 |
| 600.00 | 3.62 | 3.52 | 0.10 | 23.52 | 0.22 | 1.40 | 1.25 | 1.25 |
| 800.00 | 3.58 | 3.56 | 0.03 | 20.65 | 0.20 | 1.39 | 1.17 | 1.16 |
| 1000.00 | 3.61 | 3.68 | 0.07 | 19.36 | 0.41 | 1.37 | 1.12 | 1.08 |
| 1200.00 | 3.69 | 3.84 | 0.15 | 19.24 | 0.93 | 1.34 | 1.14 | 1.04 |
| 1400.00 | 3.76 | 3.98 | 0.22 | 20.40 | 1.78 | 1.30 | 1.23 | 1.13 |
| 1500.00 | 3.84 | 4.07 | 0.23 | 21.76 | 2.34 | 1.29 | 1.29 | 1.18 |
| 1600.00 | 3.92 | 4.16 | 0.24 | 24.12 | 2.94 | 1.28 | 1.35 | 1.23 |
| 1700.00 | 4.02 | 4.25 | 0.24 | 28.51 | 3.61 | 1.27 | 1.40 | 1.29 |
| 1800.00 | 4.15 | 4.36 | 0.21 | 31.25 | 4.31 | 1.27 | 1.45 | 1.34 |
| 1900.00 | 4.33 | 4.49 | 0.18 | 26.03 | 4.98 | 1.32 | 1.49 | 1.38 |
| 2000.00 | 4.57 | 4.66 | 0.16 | 20.75 | 5.63 | 1.40 | 1.51 | 1.42 |

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



electrical schematic



For detailed performance specs & shopping online see web site

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/IRF MICROWAVE COMPONENTS

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M136167
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