

Surface Mount, Micro-Miniature

# Power Splitter/Combiners

2 Way-0° 50Ω

1000 to 2500 MHz

SBTC-2-25+

SBTC-2-25L+



No Leads

CASE STYLE:AT790  
PRICE:\$3.49 ea. QTY (25)  
\$2.69 ea. QTY (1000)



Leads

CASE STYLE:AT1029  
PRICE:\$3.64 ea. QTY (25)  
\$2.84 ea. QTY (1000)

## Maximum Ratings

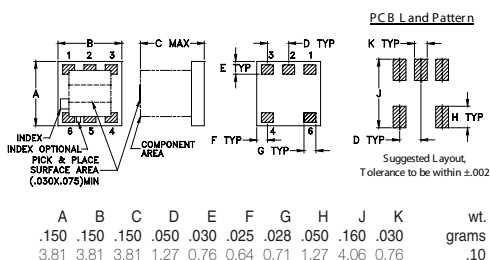
|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -40°C to 85°C  |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 1W max.        |
| Internal Dissipation        | 0.125W max.    |

## Pin Connections

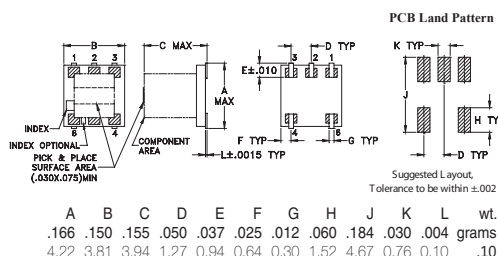
|          |     |
|----------|-----|
| SUM PORT | 6   |
| PORT 1   | 3   |
| PORT 2   | 4   |
| GROUND   | 1,2 |
| NOT USED | 5   |

## Outline Drawing / Dimensions (inch/mm)

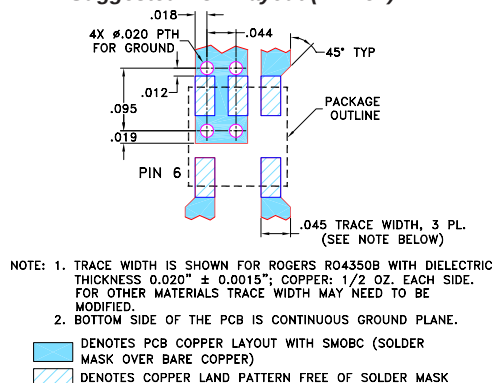
AT790 (SBTC-2-25+)



AT1029 (SBTC-2-25L+)



## Demo Board MCL P/N: TB-274 Suggested PCB Layout (PL-152)



## Features

- wide band frequency, 1000-2500 MHz
- excellent amplitude unbalance, 0.2 dB 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

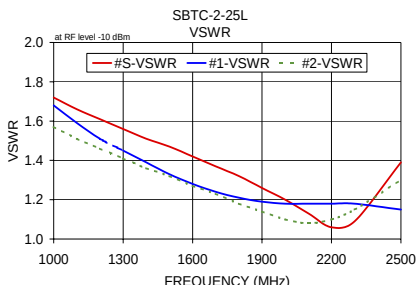
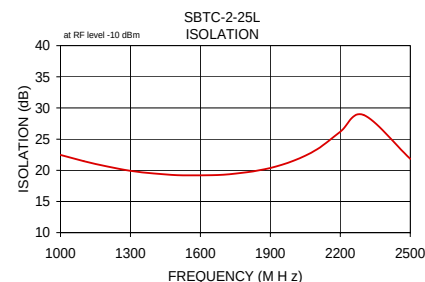
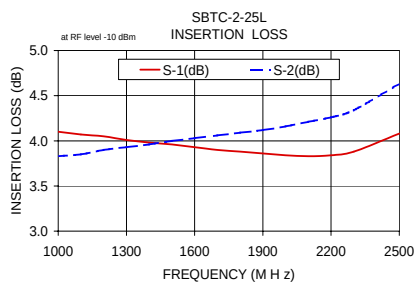
- PCN/PCS
- DECT
- PHS

## 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.                     |
| 1000-2500         | 20 14          | 1.4 2.5                          | 14                        | 1.2                      |
| 1400-1800         | 18 14          | 0.9 1.7                          | 8                         | 0.7                      |
| 1800-2000         | 19 16          | 1.0 1.7                          | 8                         | 0.8                      |

## Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) S-1 | Loss (dB) S-2 | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|-------------------------|---------------|--------------------------|----------------|------------------------|--------|--------|--------|
| 1000.00         | 4.10                    | 3.83          | 0.28                     | 22.47          | 2.79                   | 1.72   | 1.68   | 1.57   |
| 1100.00         | 4.07                    | 3.85          | 0.21                     | 21.47          | 2.54                   | 1.66   | 1.59   | 1.51   |
| 1200.00         | 4.05                    | 3.90          | 0.15                     | 20.62          | 2.39                   | 1.61   | 1.51   | 1.46   |
| 1300.00         | 4.01                    | 3.93          | 0.08                     | 19.92          | 2.34                   | 1.56   | 1.45   | 1.41   |
| 1400.00         | 3.98                    | 3.96          | 0.04                     | 19.49          | 2.36                   | 1.51   | 1.39   | 1.36   |
| 1500.00         | 3.96                    | 4.00          | 0.05                     | 19.21          | 2.47                   | 1.47   | 1.33   | 1.32   |
| 1600.00         | 3.93                    | 4.03          | 0.10                     | 19.18          | 2.66                   | 1.42   | 1.28   | 1.27   |
| 1700.00         | 3.90                    | 4.06          | 0.16                     | 19.29          | 2.92                   | 1.37   | 1.24   | 1.23   |
| 1800.00         | 3.88                    | 4.09          | 0.21                     | 19.68          | 3.28                   | 1.32   | 1.21   | 1.18   |
| 1900.00         | 3.86                    | 4.12          | 0.27                     | 20.37          | 3.70                   | 1.26   | 1.19   | 1.14   |
| 2000.00         | 3.84                    | 4.16          | 0.32                     | 21.53          | 4.23                   | 1.20   | 1.18   | 1.10   |
| 2100.00         | 3.83                    | 4.21          | 0.37                     | 23.36          | 4.87                   | 1.13   | 1.18   | 1.08   |
| 2200.00         | 3.84                    | 4.26          | 0.42                     | 26.19          | 5.57                   | 1.06   | 1.18   | 1.10   |
| 2300.00         | 3.88                    | 4.34          | 0.46                     | 28.88          | 6.36                   | 1.09   | 1.18   | 1.15   |
| 2500.00         | 4.08                    | 4.63          | 0.55                     | 21.85          | 8.22                   | 1.39   | 1.15   | 1.30   |



## electrical schematic



**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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](http://www.minicircuits.com/MCLStore/terms.jsp).

REV. E  
M111888  
SBTC-2-25+ ED-9533/1  
SBTC-2-25L+ ED-10035A/3  
VZ/TD/CP  
100520