



## IMPEDANCE MATCHING

# Power Splitter/Combiner **SBTC-2-10-7550+**

Mini-Circuits

2 Way-0° 50/75Ω 5 to 1000 MHz

### FEATURES

- 75Ω Input, 50Ω Output
- Excellent Isolation, 24 dB Typ.
- Very Good Phase Unbalance, 1.0 deg. Typ.
- Small Size, 0.15x0.15x0.15"
- Temperature Stable LTCC Base
- Small Size
- Low Cost
- Aqueous Washable
- Protected by US Patent 6,963,255



Generic photo used for illustration purposes only

CASE STYLE: AT790

#### +RoHS Compliant

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

### APPLICATIONS

- Impedance Matching
- Balanced Amplifiers

### ELECTRICAL SPECIFICATIONS AT +25°C

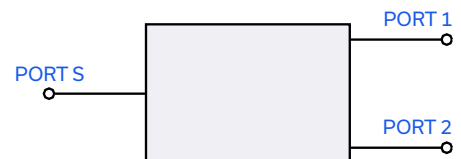
| Parameter                   | Frequency (MHz) | Min. | Typ. | Max. | Unit   |
|-----------------------------|-----------------|------|------|------|--------|
| Frequency Range             |                 | 5    |      | 1000 | MHz    |
| Insertion Loss Above 3.0 dB | 5-50            |      | 0.5  | 1.3  | dB     |
|                             | 50-500          |      | 0.6  | 1.1  |        |
|                             | 500-1000        |      | 0.7  | 1.5  |        |
| Isolation                   | 5-50            | 13   | 23   |      | dB     |
|                             | 50-500          | 20   | 24   |      |        |
|                             | 500-1000        | 20   | 26   |      |        |
| Phase Unbalance             | 5-50            |      |      | 6    | Degree |
|                             | 50-500          |      |      | 3    |        |
|                             | 500-1000        |      |      | 5    |        |
| Amplitude Unbalance         | 5-50            |      |      | 0.8  | dB     |
|                             | 50-500          |      |      | 0.5  |        |
|                             | 500-1000        |      |      | 0.5  |        |

### ABSOLUTE MAXIMUM RATINGS

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

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

### ELECTRICAL SCHEMATIC



REV. F  
ECO-015187  
SBTC-2-10-7550+  
MCL NY  
250414







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# SBTC-2-10-7550+

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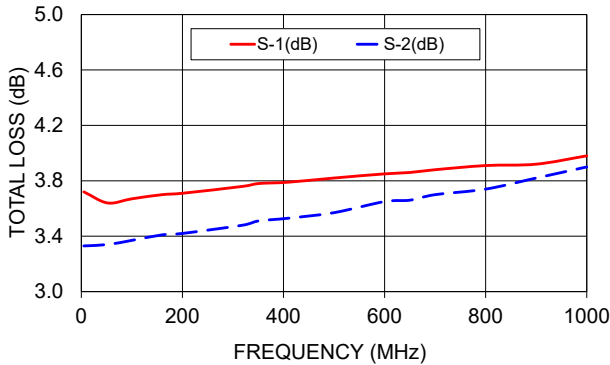
2 Way-0° 50/75Ω 5 to 1000 MHz

## TYPICAL PERFORMANCE DATA

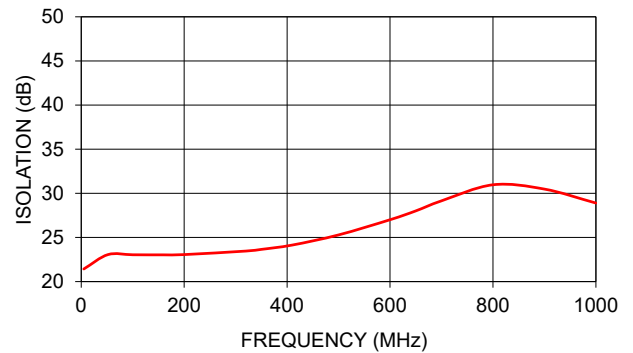
| Frequency (MHz) | Total Loss <sup>1</sup> (dB) |      | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR (:1) |      |      |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|-----------|------|------|
|                 | S-1                          | S-2  |                          |                |                        | S         | 1    | 2    |
| 5.00            | 3.72                         | 3.33 | 0.39                     | 21.43          | 1.97                   | 1.19      | 1.29 | 1.17 |
| 52.00           | 3.64                         | 3.34 | 0.29                     | 23.06          | 0.18                   | 1.15      | 1.18 | 1.11 |
| 100.00          | 3.67                         | 3.37 | 0.30                     | 23.04          | 0.08                   | 1.15      | 1.17 | 1.11 |
| 160.00          | 3.70                         | 3.41 | 0.29                     | 23.03          | 0.35                   | 1.14      | 1.17 | 1.11 |
| 200.00          | 3.71                         | 3.42 | 0.28                     | 23.06          | 0.43                   | 1.15      | 1.17 | 1.12 |
| 320.00          | 3.76                         | 3.48 | 0.28                     | 23.46          | 0.73                   | 1.17      | 1.18 | 1.16 |
| 350.00          | 3.78                         | 3.51 | 0.27                     | 23.65          | 0.72                   | 1.18      | 1.18 | 1.17 |
| 410.00          | 3.79                         | 3.53 | 0.26                     | 24.14          | 0.91                   | 1.20      | 1.18 | 1.19 |
| 500.00          | 3.82                         | 3.57 | 0.25                     | 25.29          | 1.00                   | 1.23      | 1.19 | 1.22 |
| 600.00          | 3.85                         | 3.65 | 0.20                     | 27.01          | 1.12                   | 1.27      | 1.20 | 1.25 |
| 650.00          | 3.86                         | 3.66 | 0.20                     | 28.01          | 1.15                   | 1.29      | 1.20 | 1.26 |
| 700.00          | 3.88                         | 3.70 | 0.18                     | 29.15          | 1.15                   | 1.31      | 1.20 | 1.27 |
| 800.00          | 3.91                         | 3.74 | 0.17                     | 30.97          | 1.23                   | 1.37      | 1.21 | 1.29 |
| 900.00          | 3.92                         | 3.82 | 0.11                     | 30.48          | 1.25                   | 1.39      | 1.23 | 1.31 |
| 1000.00         | 3.98                         | 3.90 | 0.07                     | 28.90          | 1.23                   | 1.38      | 1.27 | 1.35 |

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

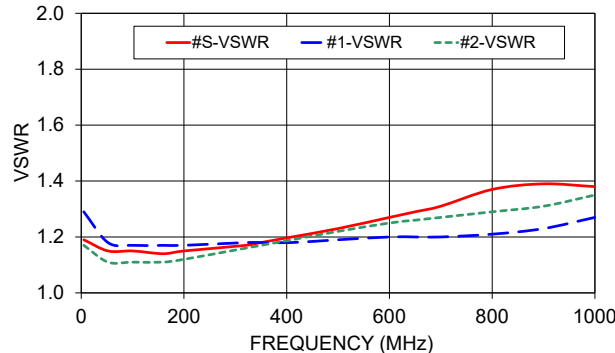
TOTAL LOSS



ISOLATION



VSWR



### 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-Circuit's 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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)

