

Coaxial

# Power Splitter/Combiner

**3 Way-0° 50Ω 1 to 200 MHz**

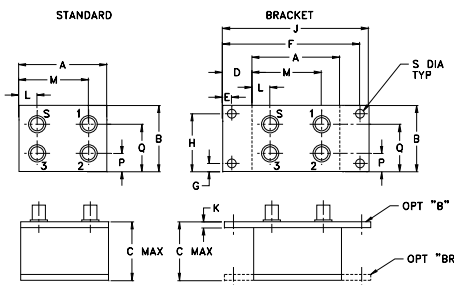
## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -55°C to 100°C |
| Storage Temperature                                             | -55°C to 100°C |
| Power Input (as a splitter)                                     | 1W max.        |
| Internal Dissipation                                            | 0.375W max.    |
| Permanent damage may occur if any of these limits are exceeded. |                |

## Coaxial Connections

|          |   |
|----------|---|
| SUM PORT | S |
| PORT 1   | 1 |
| PORT 2   | 2 |
| PORT 3   | 3 |

## Outline Drawing



## Outline Dimensions (inch/mm)

| A     | B     | C     | D     | E    | F     | G     | H     |       |
|-------|-------|-------|-------|------|-------|-------|-------|-------|
| 2.25  | 1.38  | 1.24  | .50   | .150 | 3.100 | .138  | 1.238 |       |
| 57.15 | 35.05 | 31.50 | 12.70 | 3.81 | 78.74 | 3.51  | 31.45 |       |
| J     | K     | L     | M     | N    | P     | Q     | S     | wt    |
| 3.25  | .10   | .78   | 1.47  | --   | .38   | 1.00  | .150  | grams |
| 82.55 | 2.54  | 19.81 | 37.34 | --   | 9.65  | 25.40 | 3.81  | 110.0 |

## Features

- low insertion loss, 0.4 dB typ.
- high isolation, 40 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 1 deg. typ.
- excellent VSWR, 1.5:1 typ.
- rugged shielded case

## Applications

- VHF
- instrumentation
- communication system

## Splitter Electrical Specifications

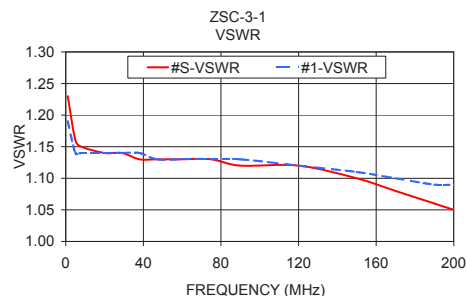
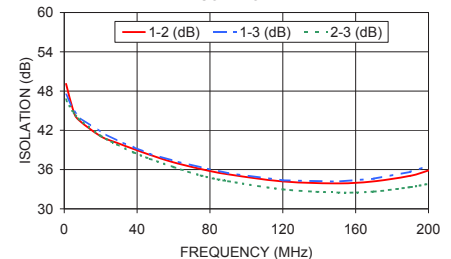
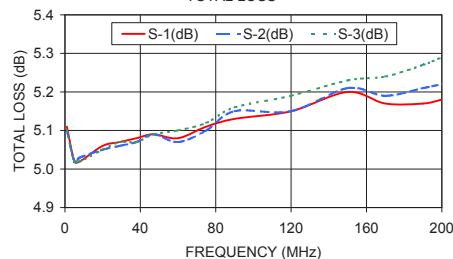
| FREQ. RANGE (MHz) | ISOLATION (dB) |      |      |      |      |      | INSERTION LOSS (dB) ABOVE 4.8 dB |      |      |      |      |      | PHASE UNBALANCE (Degrees) |      |      | AMPLITUDE UNBALANCE (dB) |      |      |
|-------------------|----------------|------|------|------|------|------|----------------------------------|------|------|------|------|------|---------------------------|------|------|--------------------------|------|------|
|                   | L              |      | M    |      | U    |      | L                                |      | M    |      | U    |      | L                         | M    | U    | L                        | M    | U    |
| $f_L$ - $f_U$     | Typ.           | Min. | Typ. | Min. | Typ. | Min. | Typ.                             | Max. | Typ. | Max. | Typ. | Max. | Max.                      | Max. | Max. | Max.                     | Max. | Max. |
| 1-200             | 45             | 30   | 40   | 25   | 40   | 25   | 0.3                              | 0.5  | 0.4  | 0.7  | 0.6  | 1.0  | 1                         | 2    | 4    | 0.15                     | 0.2  | 0.3  |

L = low range [ $f_L$  to 10  $f_L$ ] M = mid range [10  $f_L$  to  $f_U/2$ ] U = upper range [ $f_U/2$  to  $f_U$ ]

## Typical Performance Data

| Freq. (MHz) | Total Loss <sup>1</sup> (dB) |      |      | Amp. Unbal. (dB) | Isolation (dB) |       |       | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 |
|-------------|------------------------------|------|------|------------------|----------------|-------|-------|---------------------|--------|--------|--------|--------|
|             | S-1                          | S-2  | S-3  |                  | 1-2            | 1-3   | 2-3   |                     |        |        |        |        |
| 1.00        | 5.11                         | 5.10 | 5.10 | 0.00             | 49.11          | 47.46 | 46.70 | 0.05                | 1.23   | 1.19   | 1.19   | 1.18   |
| 5.00        | 5.02                         | 5.02 | 5.02 | 0.00             | 44.98          | 45.11 | 44.74 | 0.04                | 1.16   | 1.14   | 1.14   | 1.14   |
| 8.00        | 5.02                         | 5.03 | 5.02 | 0.01             | 43.57          | 44.02 | 43.72 | 0.09                | 1.15   | 1.14   | 1.14   | 1.14   |
| 20.00       | 5.06                         | 5.05 | 5.05 | 0.01             | 41.08          | 41.74 | 41.14 | 0.19                | 1.14   | 1.14   | 1.13   | 1.13   |
| 29.00       | 5.07                         | 5.06 | 5.07 | 0.01             | 40.08          | 40.44 | 39.84 | 0.21                | 1.14   | 1.14   | 1.13   | 1.13   |
| 38.00       | 5.08                         | 5.07 | 5.07 | 0.01             | 39.15          | 39.44 | 38.61 | 0.30                | 1.13   | 1.14   | 1.13   | 1.13   |
| 47.00       | 5.09                         | 5.09 | 5.09 | 0.00             | 38.26          | 38.41 | 37.64 | 0.42                | 1.13   | 1.13   | 1.13   | 1.13   |
| 60.00       | 5.08                         | 5.07 | 5.10 | 0.03             | 37.10          | 37.35 | 36.39 | 0.56                | 1.13   | 1.13   | 1.13   | 1.13   |
| 75.00       | 5.11                         | 5.10 | 5.12 | 0.01             | 36.09          | 36.35 | 35.09 | 0.63                | 1.13   | 1.13   | 1.13   | 1.13   |
| 90.00       | 5.13                         | 5.15 | 5.16 | 0.03             | 35.28          | 35.44 | 34.23 | 0.76                | 1.12   | 1.13   | 1.13   | 1.12   |
| 120.00      | 5.15                         | 5.15 | 5.19 | 0.04             | 34.19          | 34.35 | 32.97 | 1.13                | 1.12   | 1.12   | 1.12   | 1.12   |
| 150.00      | 5.20                         | 5.21 | 5.23 | 0.03             | 33.89          | 34.16 | 32.49 | 1.26                | 1.10   | 1.11   | 1.12   | 1.11   |
| 170.00      | 5.17                         | 5.19 | 5.24 | 0.07             | 34.61          | 34.61 | 32.64 | 1.46                | 1.08   | 1.10   | 1.11   | 1.10   |
| 190.00      | 5.17                         | 5.21 | 5.27 | 0.09             | 35.05          | 35.66 | 33.32 | 1.55                | 1.06   | 1.09   | 1.10   | 1.10   |
| 200.00      | 5.18                         | 5.22 | 5.29 | 0.10             | 35.86          | 36.56 | 33.82 | 1.70                | 1.05   | 1.09   | 1.10   | 1.10   |

1. Total Loss = Insertion Loss + 4.8dB splitter loss.



## electrical schematic



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



[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 [sales@minicircuits.com](mailto:sales@minicircuits.com)

**ZSC-3-1+**  
**ZSC-3-1**


CASE STYLE: P25

Connectors Model  
 BNC ZSC-3-1(+)  
 BRACKET (OPTION "B")  
 BRACKET (OPTION "BR")

**+RoHS Compliant**

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

REV. C  
 M151107  
 ZSC-3-1  
 HY/TD/CP/AM  
 151019