

# Coaxial Power Splitter/Combiner

## ZSC-3-2+

3 Way-0° 50Ω 0.01 to 30 MHz



CASE STYLE: P25

### Maximum Ratings

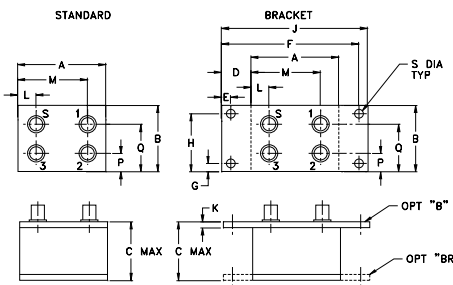
|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -55°C to 100°C |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 1W max.        |
| Internal Dissipation        | 0.375W max.    |

At low range frequency band ( $f_L$  to  $10f_L$ ), linearly derate maximum input power by 13 dB.  
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, 0.15 dB typ.
- high isolation, 40 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 0.5 deg. typ.
- rugged shielded case

### Applications

- HF
- amateur radio
- communication system

| Connectors            | Model    | Price   | Qty.  |
|-----------------------|----------|---------|-------|
| BNC                   | ZSC-3-2+ | \$61.95 | (1-9) |
| BRACKET (OPTION "B")  |          | \$5.00  | (1+)  |
| BRACKET (OPTION "BR") |          | \$1.50  | (1+)  |

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

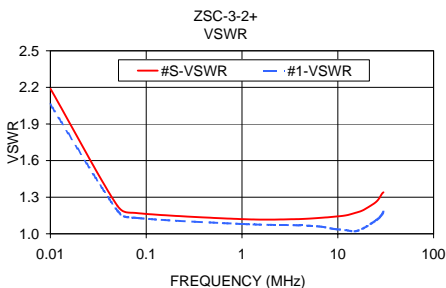
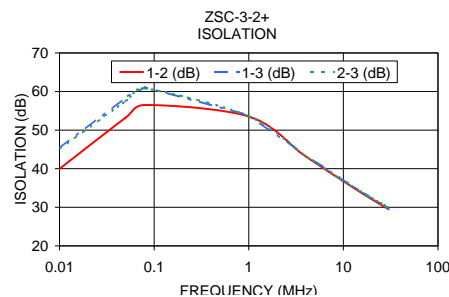
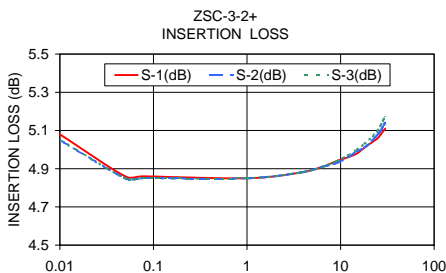
### Electrical Specifications

| 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    |
|                   | Typ.           | Min. | Typ. | Min. | Typ. | Min. | Typ.                             | Max. | Typ. | Max. | Typ. | Max. | Max.                      | Max. | Max. | Max.                     | Max. | Max. |
| $f_L$ - $f_U$     |                |      |      |      |      |      |                                  |      |      |      |      |      |                           |      |      |                          |      |      |
| 0.01-30           | 35             | 30   | 40   | 25   | 30   | 25   | 0.25                             | 0.45 | 0.15 | 0.45 | 0.45 | 0.75 | 1.0                       | 2.0  | 4.0  | 0.2                      | 0.3  | 0.4  |

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

### Typical Performance Data

| Freq. (MHz) | Insertion Loss (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   |                     |        |        |        |        |
| 0.01        | 5.08                | 5.05 | 5.05 | 0.03             | 39.98          | 45.28 | 45.16 | 0.66                | 2.19   | 2.06   | 2.06   | 2.11   |
| 0.05        | 4.86                | 4.85 | 4.85 | 0.01             | 53.25          | 58.54 | 57.54 | 0.04                | 1.23   | 1.19   | 1.19   | 1.19   |
| 0.08        | 4.86                | 4.85 | 4.85 | 0.01             | 56.50          | 61.15 | 60.78 | 0.00                | 1.17   | 1.13   | 1.13   | 1.14   |
| 1.00        | 4.85                | 4.85 | 4.85 | 0.01             | 53.52          | 53.82 | 53.61 | 0.02                | 1.12   | 1.08   | 1.08   | 1.09   |
| 3.70        | 4.88                | 4.88 | 4.88 | 0.00             | 43.77          | 44.01 | 43.84 | 0.03                | 1.12   | 1.07   | 1.07   | 1.07   |
| 6.40        | 4.91                | 4.91 | 4.91 | 0.00             | 39.85          | 40.14 | 40.01 | 0.04                | 1.13   | 1.06   | 1.06   | 1.06   |
| 9.10        | 4.94                | 4.93 | 4.94 | 0.00             | 37.40          | 37.69 | 37.59 | 0.06                | 1.14   | 1.04   | 1.04   | 1.05   |
| 12.00       | 4.96                | 4.96 | 4.97 | 0.01             | 35.48          | 35.76 | 35.70 | 0.09                | 1.15   | 1.03   | 1.03   | 1.04   |
| 15.00       | 4.98                | 4.99 | 5.00 | 0.01             | 33.96          | 34.24 | 34.22 | 0.11                | 1.17   | 1.02   | 1.03   | 1.04   |
| 18.00       | 5.01                | 5.01 | 5.03 | 0.02             | 32.75          | 33.02 | 33.05 | 0.14                | 1.19   | 1.04   | 1.05   | 1.05   |
| 22.00       | 5.04                | 5.05 | 5.07 | 0.03             | 31.46          | 31.70 | 31.79 | 0.18                | 1.23   | 1.08   | 1.08   | 1.09   |
| 25.00       | 5.06                | 5.08 | 5.10 | 0.04             | 30.64          | 30.87 | 31.02 | 0.22                | 1.26   | 1.11   | 1.12   | 1.12   |
| 27.00       | 5.08                | 5.10 | 5.13 | 0.05             | 30.16          | 30.36 | 30.57 | 0.24                | 1.29   | 1.13   | 1.14   | 1.14   |
| 29.00       | 5.10                | 5.13 | 5.16 | 0.06             | 29.70          | 29.88 | 30.13 | 0.26                | 1.33   | 1.16   | 1.17   | 1.17   |
| 30.00       | 5.11                | 5.14 | 5.17 | 0.06             | 29.48          | 29.65 | 29.91 | 0.27                | 1.34   | 1.18   | 1.18   | 1.18   |



### electrical schematic



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)

IF/RF MICROWAVE COMPONENTS

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).

For detailed performance specs & shopping online see web site

REV. B  
M113397  
ZSC-3-2+  
HY/TD/CP/AM  
090826