

# Coaxial Power Splitter/Combiner

## ZSC-3-1+ ZSC-3-1

3 Way-0° 50Ω 1 to 200 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.    |

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 |

### 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

| Connectors            | Model      | Price   | Qty.  |
|-----------------------|------------|---------|-------|
| BNC                   | ZSC-3-1(+) | \$51.95 | (1-9) |
| BRACKET (OPTION "B")  |            | \$5.00  | (1+)  |
| BRACKET (OPTION "BR") |            | \$1.50  | (1+)  |

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

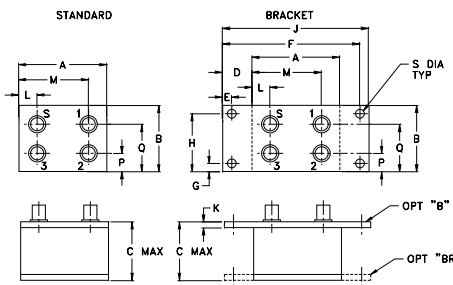
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### 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    |
|                   | Typ.           | Min. | Typ. | Min. | Typ. | Min. | Typ.                             | Max. | Typ. | Max. | Typ. | Max. | Max.                      | Max. | Max. | Max.                     | Max. | Max. |
| $f_L$ - $f_U$     |                |      |      |      |      |      |                                  |      |      |      |      |      |                           |      |      |                          |      |      |
| 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  $f_U$ ]

### Outline Drawing



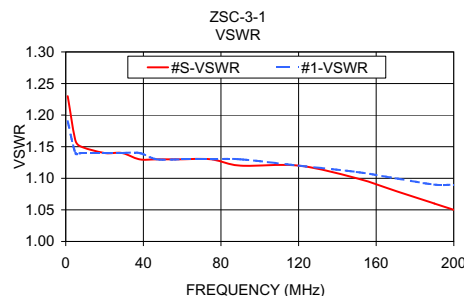
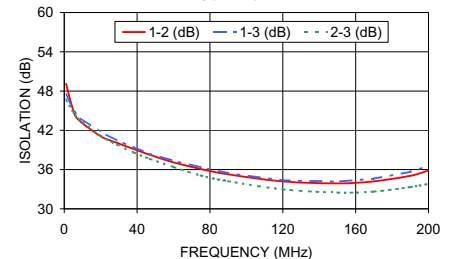
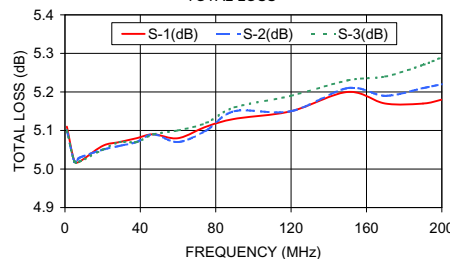
### Outline Dimensions (inch/mm)

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

### 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             | 34.20          | 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   |

ZSC-3-1 TOTAL LOSS 1. Total Loss = Insertion Loss + 4.8dB splitter loss.



### electrical schematic



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