

Coaxial

# Power Splitter/Combiner

**3 Way-0° 50Ω 1 to 200 MHz**
**ZFSC-3-13**


BNC version shown

CASE STYLE: J17

| Connectors                  | Model       | Price   | Qty.  |
|-----------------------------|-------------|---------|-------|
| <b>BNC</b>                  | ZFSC-3-13   | \$51.95 | (1-9) |
| <b>SMA</b>                  | ZFSC-3-13-S | \$56.95 | (1-9) |
| <b>N-TYPE</b>               | ZFSC-3-13-N | \$56.95 | (1-9) |
| <b>BRACKET (OPTION "B")</b> |             | \$5.00  | (1+)  |

## Maximum Ratings

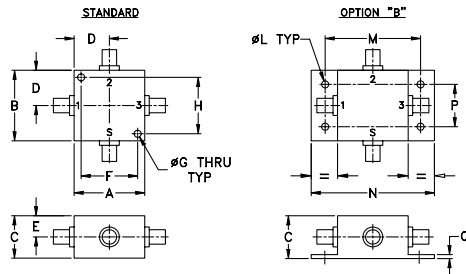
|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -55°C to 100°C |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 1W max.        |
| Internal Dissipation        | 0.375W max.    |

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     |
|-------|-------|-------|-------|------|-------|------|-------|
| 1.25  | 1.25  | .75   | .63   | .38  | 1.000 | .125 | 1.000 |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.65 | 25.40 | 3.18 | 25.40 |

| J  | K  | L    | M     | N     | P     | Q    | wt    |
|----|----|------|-------|-------|-------|------|-------|
| -- | -- | .125 | 1.688 | 2.18  | .75   | .07  | grams |
| -- | -- | 3.18 | 42.88 | 55.37 | 19.05 | 1.78 | 75.0  |

For option B with N-Type connectors, dimension "C" increases to 0.94 inches.

## Features

- low insertion, 0.35 dB typ.
- very high isolation, 48 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 1 deg. typ.
- excellent VSWR, 1.1:1 typ.
- rugged shielded case

## Applications

- VHF
- instrumentation
- radio communication system

## 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   | 48   | 35   | 37   | 30   | 0.25                             | 0.5  | 0.35 | 0.6  | 0.35 | 0.6  | 1.0                       | 3.0  | 5.0  | 0.1                      | 0.2  | 0.2  |

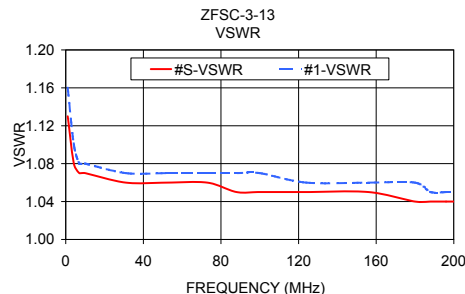
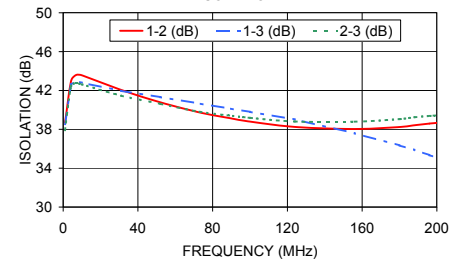
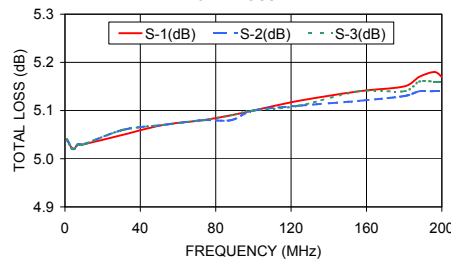
L = low range [ $f_L$  to  $10 f_L$ ] M = mid range [ $10 f_L$  to  $f_U/2$ ] U = upper range [ $f_U/2$  to  $f_U$ ]

## 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        | 5.04                         | 5.04 | 5.04 | 0.01             | 38.69          | 38.54 | 37.91 | 0.02                | 1.13   | 1.16   | 1.17   | 1.17   |
| 4.20        | 5.02                         | 5.02 | 5.02 | 0.00             | 42.98          | 42.61 | 42.44 | 0.03                | 1.08   | 1.10   | 1.10   | 1.10   |
| 7.00        | 5.03                         | 5.03 | 5.03 | 0.00             | 43.60          | 42.94 | 42.77 | 0.01                | 1.07   | 1.08   | 1.08   | 1.08   |
| 10.00       | 5.03                         | 5.03 | 5.03 | 0.00             | 43.56          | 42.80 | 42.63 | 0.05                | 1.07   | 1.08   | 1.08   | 1.08   |
| 31.00       | 5.05                         | 5.06 | 5.06 | 0.01             | 42.06          | 41.96 | 41.46 | 0.07                | 1.06   | 1.07   | 1.07   | 1.07   |
| 52.00       | 5.07                         | 5.07 | 5.07 | 0.00             | 40.78          | 41.32 | 40.62 | 0.17                | 1.06   | 1.07   | 1.07   | 1.07   |
| 73.00       | 5.08                         | 5.08 | 5.08 | 0.01             | 39.74          | 40.65 | 39.81 | 0.21                | 1.06   | 1.07   | 1.07   | 1.07   |
| 88.00       | 5.09                         | 5.08 | 5.09 | 0.01             | 39.19          | 40.18 | 39.45 | 0.25                | 1.05   | 1.07   | 1.07   | 1.07   |
| 100.00      | 5.10                         | 5.10 | 5.10 | 0.00             | 38.80          | 39.80 | 39.18 | 0.30                | 1.05   | 1.07   | 1.06   | 1.07   |
| 124.00      | 5.12                         | 5.11 | 5.11 | 0.01             | 38.25          | 39.02 | 38.81 | 0.36                | 1.05   | 1.06   | 1.06   | 1.07   |
| 156.00      | 5.14                         | 5.12 | 5.14 | 0.02             | 38.04          | 37.59 | 38.79 | 0.42                | 1.05   | 1.06   | 1.05   | 1.07   |
| 180.00      | 5.15                         | 5.13 | 5.14 | 0.02             | 38.24          | 36.35 | 39.05 | 0.44                | 1.04   | 1.06   | 1.05   | 1.07   |
| 188.00      | 5.17                         | 5.14 | 5.16 | 0.02             | 38.42          | 35.88 | 39.25 | 0.48                | 1.04   | 1.05   | 1.05   | 1.06   |
| 196.00      | 5.18                         | 5.14 | 5.16 | 0.03             | 38.59          | 35.35 | 39.38 | 0.51                | 1.04   | 1.05   | 1.05   | 1.06   |
| 200.00      | 5.17                         | 5.14 | 5.16 | 0.03             | 38.67          | 35.10 | 39.44 | 0.51                | 1.04   | 1.05   | 1.04   | 1.06   |

ZFSC-3-13  
TOTAL LOSS

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

ZFSC-3-13  
ISOLATION

## electrical schematic


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