*Coaxial*

# Power Splitter/Combiner

## ZFSC-6-1+

6 Way-0° 50Ω 1 to 175 MHz



*Generic photo used for illustration purposes only*

CASE STYLE: Q28

| Connectors | Model |
|---|---|
| **BNC** | ZFSC-6-1+ |
| **SMA** | ZFSC-6-1-S+ |

***+RoHS Compliant***

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

### Maximum Ratings

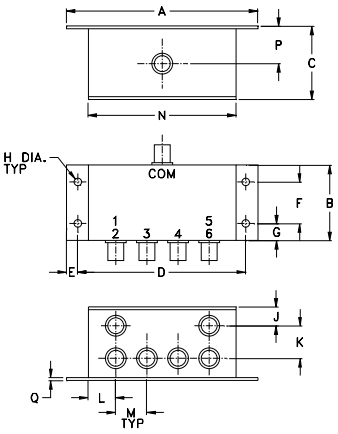
| | |
|---|---|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 1W max. |
| Internal Dissipation | 0.5W max. |

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

### Coaxial Connections

| | |
|---|---|
| SUM PORT | S |
| PORT 1,2,3,4,5,6 | 1,2,3,4,5,6 |

### Outline Drawing




### Outline Dimensions (inch / mm)

| A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|
| 4.06 | 1.60 | 1.57 | 3.56 | .24 | .88 | .36 | .160 |
| 103.12 | 40.64 | 39.88 | 90.42 | 6.10 | 22.35 | 9.14 | 4.06 |

| J | K | L | M | N | P | Q | wt |
|---|---|---|---|---|---|---|---|
| .43 | .69 | .58 | .66 | 3.13 | .8 | .125 | grams |
| 10.92 | 17.53 | 14.73 | 16.76 | 79.50 | 20.32 | 3.18 | 190.0 |

### Features

- low insertion loss, 0.75 dB typ.
- good isolation, 26 dB typ.
- rugged shielded case

### Applications

- VHF
- receivers and transmitters

### Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) | | | | | | INSERTION LOSS (dB) ABOVE 7.8 dB | | | | | | PHASE UNBALANCE (Degrees) | | | AMPLITUDE UNBALANCE (dB) | | | VSWR (:1) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | L | | M | | U | | L | | M | | U | | L | M | U | L | M | U | S | | OUT | |
| $f_L$-$f_U$ | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Max. | Typ. | Max. | Typ. | Max. | Max. | Max. | Max. | Max. | Max. | Max. | Typ. | Max. | Typ. | Max. |
| 1-175 | 27 | 22 | 26 | 20 | 26 | 20 | 0.75 | 1.0 | 0.75 | 1.2 | 0.8 | 1.2 | 2 | 6 | 12 | 0.2 | 0.4 | 0.6 | — | — | — | — |

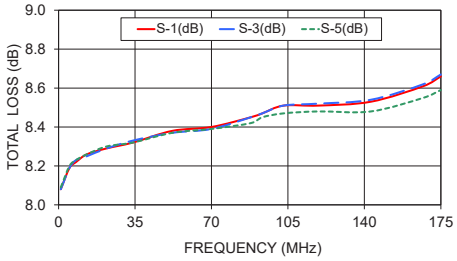
L = low range [$f_L$ to 10 $f_L$] M = mid range [10 $f_L$ to $f_U$/2] U= upper range [$f_U$/2 to $f_U$]

### Typical Performance Data

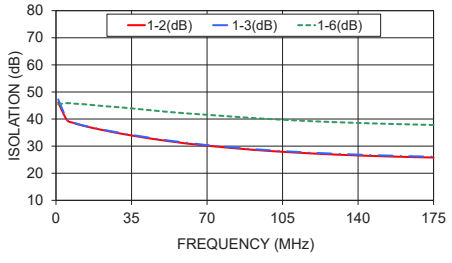
| Frequency (MHz) | Total Loss[1] (dB) | | | Amplitude Unbalance (dB) | Isolation (dB) | | | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | S-1 | S-2 | S-3 | | 1-2 | 1-3 | 1-6 | | | | |
| 1.00 | 8.08 | 8.08 | 8.09 | 0.03 | 46.12 | 47.26 | 45.41 | 0.06 | 1.07 | 1.08 | 1.08 |
| 5.00 | 8.19 | 8.19 | 8.20 | 0.03 | 39.73 | 39.76 | 45.89 | 0.06 | 1.08 | 1.04 | 1.04 |
| 8.00 | 8.22 | 8.23 | 8.23 | 0.03 | 38.61 | 38.66 | 45.69 | 0.07 | 1.09 | 1.04 | 1.04 |
| 13.00 | 8.26 | 8.25 | 8.26 | 0.03 | 37.46 | 37.56 | 45.47 | 0.24 | 1.10 | 1.04 | 1.04 |
| 22.00 | 8.29 | 8.29 | 8.30 | 0.03 | 35.88 | 36.04 | 44.79 | 0.24 | 1.12 | 1.02 | 1.02 |
| 34.00 | 8.32 | 8.33 | 8.32 | 0.03 | 34.07 | 34.26 | 44.03 | 0.38 | 1.15 | 1.02 | 1.02 |
| 52.00 | 8.38 | 8.37 | 8.37 | 0.03 | 31.86 | 32.09 | 42.63 | 0.61 | 1.18 | 1.02 | 1.03 |
| 70.00 | 8.40 | 8.39 | 8.39 | 0.02 | 30.17 | 30.40 | 41.57 | 0.74 | 1.21 | 1.03 | 1.03 |
| 88.00 | 8.45 | 8.45 | 8.42 | 0.03 | 28.88 | 29.12 | 40.56 | 0.93 | 1.23 | 1.03 | 1.04 |
| 93.25 | 8.47 | 8.47 | 8.45 | 0.03 | 28.55 | 28.80 | 40.28 | 1.01 | 1.23 | 1.03 | 1.04 |
| 103.00 | 8.51 | 8.51 | 8.47 | 0.04 | 28.02 | 28.28 | 39.85 | 1.12 | 1.23 | 1.02 | 1.03 |
| 119.00 | 8.51 | 8.52 | 8.48 | 0.04 | 27.29 | 27.54 | 39.19 | 1.32 | 1.24 | 1.01 | 1.02 |
| 143.00 | 8.53 | 8.54 | 8.48 | 0.06 | 26.48 | 26.77 | 38.49 | 1.46 | 1.26 | 1.01 | 1.01 |
| 167.00 | 8.61 | 8.62 | 8.55 | 0.08 | 25.94 | 26.24 | 37.97 | 1.76 | 1.27 | 1.03 | 1.02 |
| 175.00 | 8.66 | 8.67 | 8.59 | 0.08 | 25.82 | 26.13 | 37.80 | 1.91 | 1.26 | 1.03 | 1.03 |

1. Total Loss = Insertion Loss + 7.8dB splitter loss.

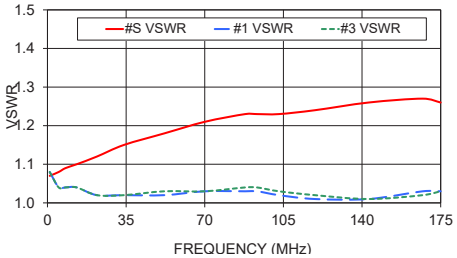
ZFSC-6-1-S+
TOTAL LOSS




ZFSC-6-1-S+
ISOLATION




ZFSC-6-1-S+
VSWR




### 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