

# Power Splitter/Combiner

6 Way-0° 50Ω 1 to 500 MHz

ZFSC-6-110



BNC version shown

CASE STYLE: Q28

| Connectors | Model        |
|------------|--------------|
| BNC        | ZFSC-6-110   |
| SMA        | ZFSC-6-110-S |

## Maximum Ratings

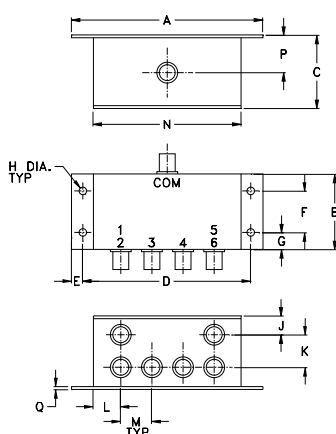
|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -55°C to 100°C |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 1W max.        |
| Internal Dissipation        | 0.5W max.      |

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

- wideband, 1 to 500 MHz
- low insertion loss, 0.6 dB typ.
- good isolation, 26 dB typ.
- good amplitude unbalance, 0.3 dB typ.
- rugged shielded case

## Applications

- VHF/UHF
- instrumentation
- receivers and transmitters

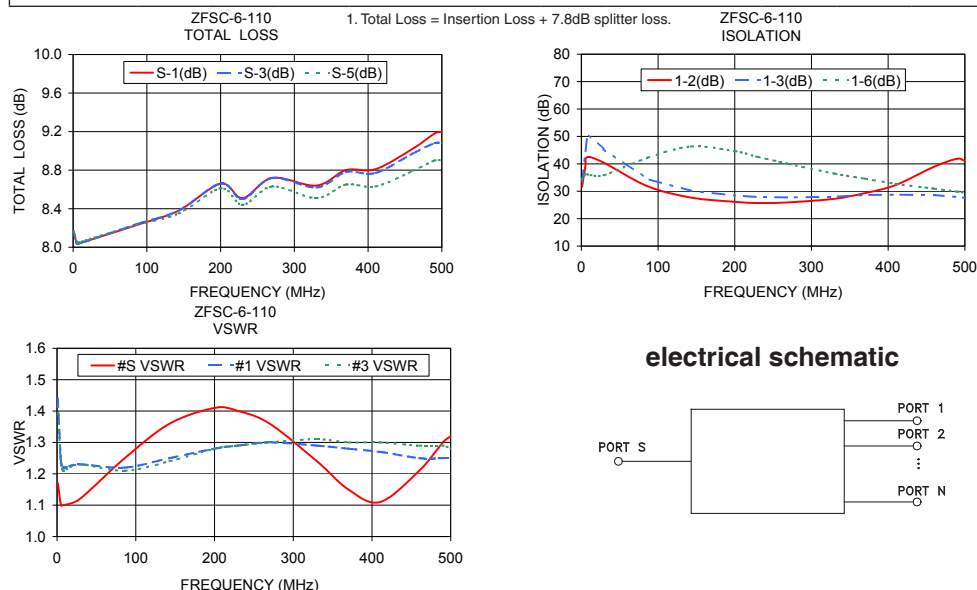
## Electrical Specifications

| 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    | L                         | M    | U    | L                        | M    | U    | S         | OUT  |      |
| f <sub>L</sub> -f <sub>U</sub> | Typ.           | Min. | Typ. | Min. | Typ. | Min. | Typ.                             | Max. | Typ. | Max. | Typ. | Max. | Max.                      | Max. | Max. | Max.                     | Max. | Max. | Typ.      | Max. | Typ. |
| 1-500                          | 35             | 25   | 26   | 20   | 25   | 20   | 0.5                              | 0.8  | 0.6  | 1.1  | 1.0  | 1.7  | 2                         | 6    | 12   | 0.3                      | 0.3  | 0.8  | —         | —    | —    |

L = low range [f<sub>L</sub> to 10 f<sub>L</sub>] M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2] U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]

## Typical Performance Data

| Frequency (MHz) | Total Loss <sup>1</sup> (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            | 8.15                         | 8.16 | 8.17 | 0.09                     | 31.66          | 33.32 | 34.39 | 0.14                | 1.17   | 1.44   | 1.42   |
| 5.00            | 8.04                         | 8.04 | 8.05 | 0.05                     | 38.59          | 43.62 | 36.18 | 0.06                | 1.10   | 1.24   | 1.23   |
| 8.00            | 8.04                         | 8.04 | 8.05 | 0.04                     | 42.48          | 50.99 | 36.16 | 0.13                | 1.10   | 1.22   | 1.21   |
| 29.00           | 8.09                         | 8.09 | 8.10 | 0.03                     | 40.47          | 45.41 | 35.86 | 0.46                | 1.12   | 1.23   | 1.23   |
| 86.00           | 8.23                         | 8.24 | 8.23 | 0.02                     | 31.86          | 34.47 | 42.20 | 1.19                | 1.25   | 1.22   | 1.21   |
| 143.00          | 8.38                         | 8.38 | 8.35 | 0.03                     | 27.71          | 30.17 | 46.32 | 1.82                | 1.36   | 1.25   | 1.24   |
| 200.00          | 8.66                         | 8.66 | 8.61 | 0.05                     | 26.16          | 28.45 | 44.64 | 2.49                | 1.41   | 1.28   | 1.28   |
| 230.00          | 8.51                         | 8.50 | 8.44 | 0.08                     | 25.72          | 27.87 | 42.52 | 2.74                | 1.40   | 1.29   | 1.29   |
| 270.00          | 8.72                         | 8.72 | 8.63 | 0.09                     | 25.94          | 27.77 | 40.02 | 3.18                | 1.36   | 1.30   | 1.30   |
| 330.00          | 8.64                         | 8.62 | 8.51 | 0.13                     | 27.24          | 27.99 | 36.44 | 3.53                | 1.24   | 1.29   | 1.31   |
| 370.00          | 8.80                         | 8.78 | 8.65 | 0.15                     | 29.33          | 28.64 | 34.61 | 4.09                | 1.15   | 1.28   | 1.30   |
| 410.00          | 8.81                         | 8.77 | 8.63 | 0.18                     | 32.29          | 28.75 | 32.70 | 4.20                | 1.11   | 1.27   | 1.30   |
| 460.00          | 9.02                         | 8.97 | 8.79 | 0.23                     | 38.99          | 28.62 | 30.93 | 4.51                | 1.21   | 1.25   | 1.29   |
| 490.00          | 9.18                         | 9.08 | 8.90 | 0.27                     | 41.87          | 27.89 | 29.83 | 4.49                | 1.30   | 1.25   | 1.29   |
| 500.00          | 9.20                         | 9.08 | 8.90 | 0.29                     | 41.00          | 27.62 | 29.50 | 4.38                | 1.32   | 1.25   | 1.28   |



## 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.
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