

Power Splitter/Combiner

2 Way-0° Resistive 50Ω DC to 4200 MHz

ZFRSC-42+



CASE STYLE: K18

| Connectors | Model |
|-----------------------------|-------------|
| SMA | ZFRSC-42-S+ |
| BRACKET (OPTION "B") | |

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

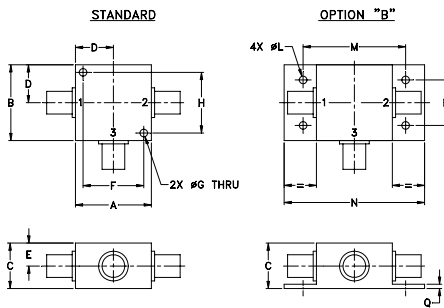
Maximum Ratings

| | |
|---|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 0.75W max. |
| Internal Dissipation | 0.375W max. |
| Permanent damage may occur if any of these limits are exceeded. | |

Coaxial Connections

| | |
|----------|---|
| SUM PORT | 3 |
| PORT 1 | 1 |
| PORT 2 | 2 |

Outline Drawing



Outline Dimensions (inch mm)

| | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|------|-------|--|--|
| A | B | C | D | E | F | G | H | | |
| 1.25 | 1.25 | .75 | .63 | .38 | 1.00 | .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 | 70.0 | | |

Features

- very wideband, DC to 4200 MHz
- low insertion loss, 0.1 dB typ. above 6 dB
- excellent amplitude unbalance, 0.02 dB typ.
- rugged shielded case

Applications

- laboratory
- test set-ups

Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) | | | INSERTION LOSS (dB) ABOVE 6.0 dB | | | | | | PHASE UNBALANCE (Degrees) | | | AMPLITUDE UNBALANCE (dB) | | |
|-------------------|----------------|------|------|----------------------------------|------|------|------|------|------|---------------------------|------|------|--------------------------|------|------|
| | L | M | U | L | | M | | U | | L | M | U | L | M | U |
| | | | | Typ. | Max. | Typ. | Max. | Typ. | Max. | | | | | | |
| f_L - f_U | Typ. | Typ. | Typ. | Typ. | Max. | Typ. | Max. | Typ. | Max. | Max. | Max. | Max. | Max. | Max. | Max. |
| DC-4200 | 6.2 | 6.5 | 7.0 | 0.1 | 0.2 | 0.1 | 0.5 | 0.4 | 1.4 | 1 | 3 | 5 | 0.1 | 0.2 | 0.5 |

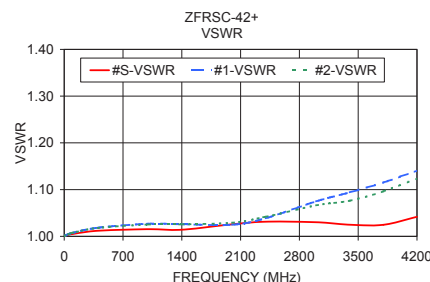
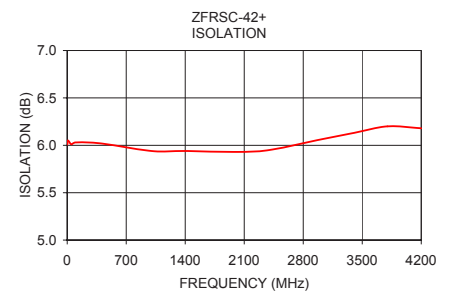
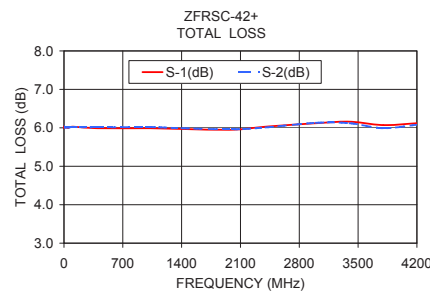
L = low range [DC-100 MHz] M = mid range [100 MHz to $f_U/2$] U = upper range [$f_U/2$ to f_U]

This is a resistive power divider to enable frequency coverage from dc to the highest rated frequency. Since resistive power divider do not provide a high degree of isolation (basically isolation equals the insertion loss between ports), an amplifier such as Mini-Circuits' ZFL series is recommended when high isolation is required. Matched power rating 0.75W, internal load dissipation 0.375W.

Typical Performance Data

| Frequency (MHz) | Total Loss ¹ (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
| | S-1 | S-2 | | | | | | |
| 0.05 | 6.01 | 6.04 | 0.03 | 6.05 | 0.48 | 1.00 | 1.00 | 1.00 |
| 0.50 | 6.03 | 6.02 | 0.01 | 6.03 | 0.03 | 1.00 | 1.00 | 1.00 |
| 1.00 | 6.00 | 6.02 | 0.02 | 6.01 | 0.00 | 1.00 | 1.00 | 1.00 |
| 10.00 | 6.01 | 6.01 | 0.00 | 6.05 | 0.05 | 1.00 | 1.00 | 1.00 |
| 50.00 | 6.00 | 6.01 | 0.01 | 6.01 | 0.01 | 1.00 | 1.00 | 1.00 |
| 100.00 | 6.03 | 6.02 | 0.01 | 6.03 | 0.09 | 1.00 | 1.01 | 1.01 |
| 400.00 | 5.99 | 6.01 | 0.02 | 6.02 | 0.06 | 1.01 | 1.02 | 1.02 |
| 1000.00 | 5.99 | 6.02 | 0.03 | 5.94 | 0.63 | 1.02 | 1.03 | 1.03 |
| 1400.00 | 5.97 | 5.99 | 0.02 | 5.94 | 1.04 | 1.01 | 1.03 | 1.03 |
| 2000.00 | 5.95 | 5.96 | 0.01 | 5.93 | 1.69 | 1.03 | 1.02 | 1.03 |
| 2400.00 | 6.03 | 6.01 | 0.02 | 5.95 | 1.96 | 1.03 | 1.04 | 1.04 |
| 3000.00 | 6.12 | 6.13 | 0.01 | 6.06 | 2.77 | 1.03 | 1.07 | 1.07 |
| 3400.00 | 6.16 | 6.12 | 0.04 | 6.13 | 3.24 | 1.02 | 1.09 | 1.08 |
| 3800.00 | 6.07 | 5.99 | 0.08 | 6.20 | 2.70 | 1.02 | 1.12 | 1.10 |
| 4200.00 | 6.12 | 6.08 | 0.03 | 6.18 | 3.18 | 1.04 | 1.14 | 1.12 |

1. Total Loss = Insertion Loss + 6dB splitter loss.



electrical schematic



Notes

- 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.
- 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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