



**THE DATASHEET OF
ZFRSC-4-842-S+**



Coaxial

Power Splitter/Combiner

ZFRSC-4-842-S+

4 Way-0° Resistive 50Ω DC to 8400 MHz



Generic photo used for illustration purposes only
CASE STYLE: G15

Connectors Model
SMA ZFRSC-4-842-S+
BRACKET (OPTION "B")

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

Maximum Ratings

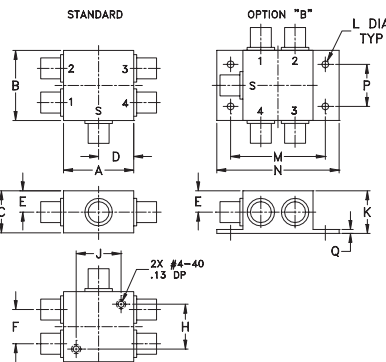
| | |
|-----------------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 0.16W max. |
| Internal Dissipation | 0.12W max. |

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 |
| PORT 4 | 4 |

Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|------|-------|
| A | B | C | D | E | F | G | H |
| 1.25 | 1.25 | .75 | .63 | .38 | .61 | — | .80 |
| 31.75 | 31.75 | 19.05 | 16.00 | 9.65 | 15.49 | — | 20.32 |
| J | K | L | M | N | P | Q | wt |
| .80 | .76 | .125 | 1.688 | 2.18 | .75 | .07 | grams |
| 20.32 | 19.30 | 3.18 | 42.88 | 55.37 | 19.05 | 1.78 | 85.0 |

Electrical Schematic



Features

- wideband, DC to 8400 MHz
- good VSWR, 1.15:1 typ.
- excellent amplitude unbalance, 0.3 dB typ.
- rugged shielded case

Applications

- laboratory
- test set-ups

Electrical Specifications at 25°C

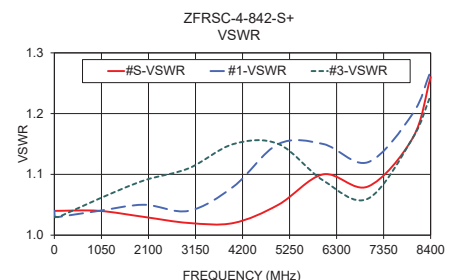
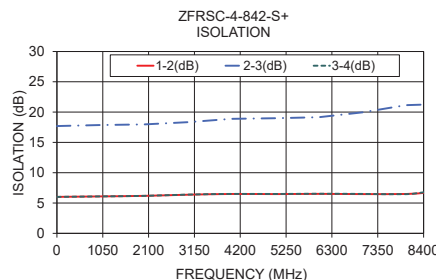
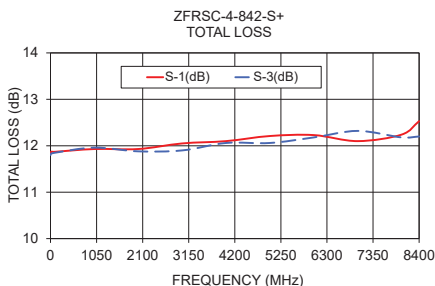
| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-----------------------------------|-----------------|------|------|------|--------|
| Frequency Range | | DC | | 8400 | MHz |
| Insertion Loss, above 12dB | DC - 3000 | — | 0.05 | 0.4 | |
| | 3000 - 6000 | — | 0.3 | 0.8 | dB |
| | 6000 - 8400 | — | 0.6 | 1.0 | |
| | DC - 3000 | — | 6.0 | — | |
| Isolation | 3000 - 6000 | — | 6.4 | — | dB |
| | 6000 - 8400 | — | 6.4 | — | |
| Phase Unbalance | DC - 3000 | — | 1.5 | 5.0 | Degree |
| | 3000 - 6000 | — | 4.0 | 9.0 | |
| | 6000 - 8400 | — | 5.0 | 10.0 | |
| Amplitude Unbalance | DC - 3000 | — | 0.1 | 0.3 | |
| | 3000 - 6000 | — | 0.3 | 0.5 | dB |
| | 6000 - 8400 | — | 0.4 | 0.8 | |
| VSWR (Port S) | DC - 3000 | — | 1.05 | 1.12 | |
| | 3000 - 6000 | — | 1.05 | 1.15 | :1 |
| | 6000 - 8400 | — | 1.20 | 1.35 | |
| VSWR (Port 1-4) | DC - 3000 | — | 1.08 | 1.20 | |
| | 3000 - 6000 | — | 1.15 | 1.25 | :1 |
| | 6000 - 8400 | — | 1.25 | 1.45 | |

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).

Typical Performance Data

| Freq. (MHz) | Total Loss ¹ (dB) | | | | Amp. Unbal. (dB) | Isolation (dB) | | | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 | VSWR 4 |
|-------------|------------------------------|-------|-------|-------|------------------|----------------|-------|------|---------------------|--------|--------|--------|--------|--------|
| | S-1 | S-2 | S-3 | S-4 | | 1-2 | 2-3 | 3-4 | | | | | | |
| 0 | 11.83 | 11.86 | 11.80 | 11.85 | 0.06 | 6.00 | 17.68 | 5.99 | 0.39 | 1.04 | 1.04 | 1.04 | 1.03 | 1.04 |
| 10 | 11.87 | 11.88 | 11.83 | 11.87 | 0.04 | 6.01 | 17.71 | 6.00 | 0.04 | 1.04 | 1.03 | 1.03 | 1.03 | 1.03 |
| 50 | 11.87 | 11.88 | 11.84 | 11.87 | 0.04 | 6.01 | 17.70 | 6.01 | 0.08 | 1.04 | 1.03 | 1.03 | 1.03 | 1.03 |
| 100 | 11.87 | 11.89 | 11.85 | 11.88 | 0.04 | 6.02 | 17.71 | 6.02 | 0.16 | 1.04 | 1.03 | 1.03 | 1.03 | 1.03 |
| 1000 | 11.93 | 11.91 | 11.96 | 11.91 | 0.05 | 6.09 | 17.87 | 6.09 | 1.07 | 1.04 | 1.04 | 1.04 | 1.06 | 1.04 |
| 2000 | 11.93 | 11.88 | 11.88 | 11.90 | 0.05 | 6.18 | 17.97 | 6.18 | 1.05 | 1.03 | 1.05 | 1.06 | 1.09 | 1.05 |
| 3000 | 12.05 | 12.01 | 11.90 | 12.00 | 0.15 | 6.37 | 18.34 | 6.39 | 2.23 | 1.02 | 1.04 | 1.08 | 1.11 | 1.06 |
| 4000 | 12.10 | 12.12 | 12.06 | 12.01 | 0.11 | 6.49 | 18.89 | 6.50 | 2.63 | 1.02 | 1.08 | 1.14 | 1.15 | 1.09 |
| 5000 | 12.21 | 12.25 | 12.06 | 12.13 | 0.19 | 6.47 | 18.99 | 6.49 | 4.52 | 1.05 | 1.15 | 1.18 | 1.15 | 1.12 |
| 6000 | 12.23 | 12.23 | 12.18 | 12.31 | 0.13 | 6.51 | 19.15 | 6.53 | 6.33 | 1.10 | 1.15 | 1.14 | 1.09 | 1.07 |
| 7000 | 12.10 | 12.05 | 12.32 | 12.33 | 0.28 | 6.47 | 19.96 | 6.50 | 6.41 | 1.08 | 1.12 | 1.04 | 1.06 | 1.06 |
| 8000 | 12.24 | 12.05 | 12.18 | 12.48 | 0.43 | 6.49 | 21.15 | 6.46 | 4.82 | 1.16 | 1.20 | 1.12 | 1.16 | 1.23 |
| 8400 | 12.53 | 12.26 | 12.20 | 12.55 | 0.35 | 6.66 | 21.24 | 6.76 | 5.48 | 1.26 | 1.27 | 1.17 | 1.23 | 1.28 |

1. Total Loss = Insertion Loss + 12dB splitter loss.



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.
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