

Power Splitter/Combiner

ZN4PD1-63LW-S+

4 Way-0° 50Ω 30W 500 to 6000 MHz

Maximum Ratings

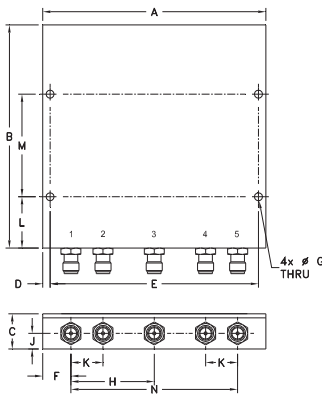
| | |
|-----------------------|-----------------------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| DC Current | 1.0 A (250mA for each port) |

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

Coaxial Connections

| | |
|----------|---|
| SUM PORT | 3 |
| PORT 1 | 1 |
| PORT 2 | 2 |
| PORT 3 | 4 |
| PORT 4 | 5 |

Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|
| A | B | C | D | E | F | G |
| 3.48 | 3.48 | .55 | .115 | 3.250 | .44 | .125 |
| 88.39 | 88.39 | 13.97 | 2.92 | 82.55 | 11.18 | 3.18 |
| H | J | K | L | M | N | wt |
| 1.30 | .24 | .500 | .80 | 1.600 | 2.60 | grams |
| 33.02 | 6.10 | 12.70 | 20.32 | 40.64 | 66.04 | 190 |

Features

- power handling up to 30 W
- wide frequency band, 500 to 6000 MHz
- very low insertion loss, 0.6 dB typ.
- low amplitude unbalance 0.15 dB typ.
- low phase unbalance 2 deg. typ.

Applications

- ISM
- test and measurement
- lab
- LTE
- WiFi
- bluetooth



Generic photo used for illustration purposes only
CASE STYLE: UU846-5

| | |
|------------|----------------|
| Connectors | Model |
| SMA | ZN4PD1-63LW-S+ |

+RoHS Compliant

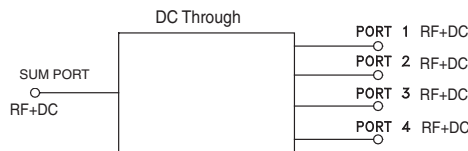
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|--|--------------------------------|----------|------|------|--------|
| Frequency | | 500 | | 6000 | MHz |
| Insertion Loss (above theoretical 6.0 dB) | 500-3000 | — | 0.4 | 0.9 | dB |
| | 3000-6000 | — | 0.6 | 1.3 | |
| Isolation | 500-600 | 16 | 19 | — | dB |
| | 600-6000 | 18 | 23 | — | |
| Phase Unbalance | 500-6000 | — | 2 | 6 | Degree |
| Amplitude Unbalance | 500-6000 | — | 0.15 | 0.4 | dB |
| VSWR (Port S) | 500-600 | — | 1.3 | 1.5 | :1 |
| | 600-6000 | — | 1.25 | 1.5 | |
| VSWR (Port 1-4) | 500-6000 | — | 1.15 | 1.25 | :1 |
| Power Handling³ | As Splitter¹ | 500-6000 | — | 30 | W |
| | As Combiner² | 500-6000 | — | 0.5 | |

1. All outputs must terminate 50 ohm (VSWR 1.2:1 or better)
2. As a combiner of non-coherent signals, max. power is 0.5Watt per port.
3. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 60°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 10°C/W.

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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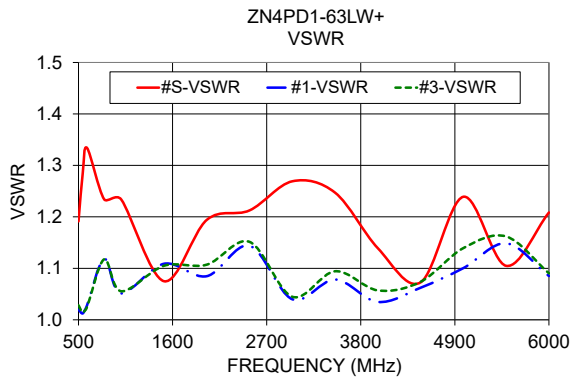
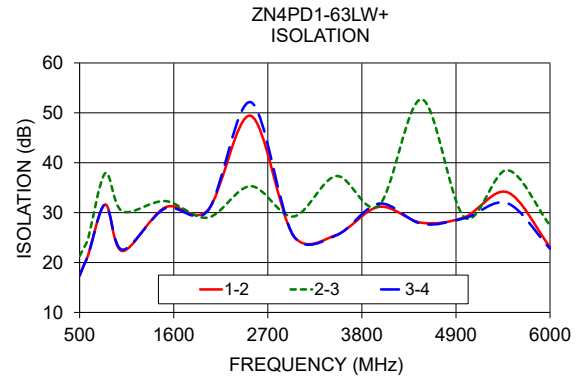
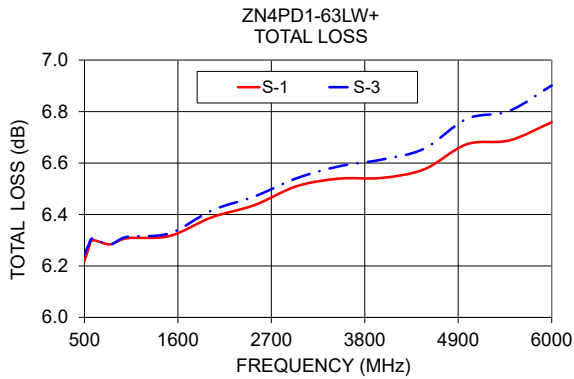


ZN4PD1-63LW-S+

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 | | | | | | |
| 500.0 | 6.22 | 6.23 | 6.25 | 6.25 | 0.03 | 17.36 | 21.33 | 17.41 | 0.14 | 1.19 | 1.02 | 1.02 | 1.03 | 1.03 |
| 550.0 | 6.27 | 6.28 | 6.28 | 6.30 | 0.03 | 19.48 | 22.94 | 19.50 | 0.22 | 1.29 | 1.01 | 1.01 | 1.01 | 1.01 |
| 600.0 | 6.30 | 6.31 | 6.31 | 6.34 | 0.04 | 21.51 | 24.86 | 21.47 | 0.22 | 1.33 | 1.03 | 1.02 | 1.02 | 1.02 |
| 800.0 | 6.28 | 6.30 | 6.28 | 6.33 | 0.04 | 31.63 | 37.91 | 31.69 | 0.34 | 1.23 | 1.12 | 1.12 | 1.12 | 1.13 |
| 1000.0 | 6.31 | 6.33 | 6.31 | 6.36 | 0.06 | 22.32 | 30.26 | 22.57 | 0.35 | 1.23 | 1.05 | 1.05 | 1.06 | 1.06 |
| 1500.0 | 6.32 | 6.34 | 6.33 | 6.38 | 0.06 | 31.06 | 32.32 | 30.86 | 0.47 | 1.07 | 1.11 | 1.12 | 1.10 | 1.12 |
| 2000.0 | 6.39 | 6.43 | 6.42 | 6.46 | 0.07 | 30.53 | 29.01 | 30.41 | 0.57 | 1.19 | 1.08 | 1.10 | 1.11 | 1.11 |
| 2500.0 | 6.44 | 6.48 | 6.47 | 6.52 | 0.08 | 49.40 | 35.30 | 52.13 | 0.70 | 1.21 | 1.14 | 1.15 | 1.15 | 1.17 |
| 3000.0 | 6.51 | 6.57 | 6.54 | 6.60 | 0.09 | 25.39 | 29.23 | 25.34 | 0.80 | 1.27 | 1.04 | 1.05 | 1.04 | 1.05 |
| 3500.0 | 6.54 | 6.61 | 6.59 | 6.64 | 0.10 | 25.53 | 37.33 | 25.43 | 0.85 | 1.25 | 1.08 | 1.09 | 1.09 | 1.08 |
| 4000.0 | 6.54 | 6.63 | 6.61 | 6.66 | 0.12 | 31.16 | 31.47 | 31.80 | 0.95 | 1.14 | 1.03 | 1.05 | 1.06 | 1.05 |
| 4500.0 | 6.58 | 6.68 | 6.66 | 6.70 | 0.12 | 27.97 | 52.70 | 27.74 | 1.02 | 1.07 | 1.06 | 1.07 | 1.07 | 1.07 |
| 5000.0 | 6.67 | 6.79 | 6.77 | 6.81 | 0.13 | 29.09 | 29.05 | 28.89 | 1.10 | 1.24 | 1.10 | 1.13 | 1.14 | 1.12 |
| 5500.0 | 6.69 | 6.82 | 6.80 | 6.84 | 0.16 | 34.09 | 38.51 | 31.89 | 1.12 | 1.10 | 1.15 | 1.16 | 1.16 | 1.17 |
| 6000.0 | 6.76 | 6.91 | 6.90 | 6.93 | 0.17 | 23.10 | 27.42 | 22.77 | 1.24 | 1.21 | 1.09 | 1.09 | 1.09 | 1.11 |

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



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