

4 Way-0° 50Ω 30W 500 to 6000 MHz

### Maximum Ratings

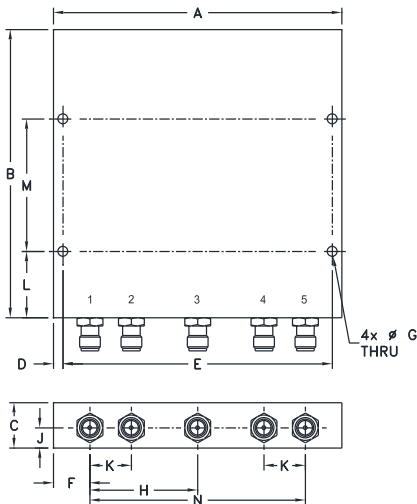
|                       |                             |
|-----------------------|-----------------------------|
| Operating Temperature | -55°C to 85°C               |
| Storage Temperature   | -55°C to 100°C              |
| DC Current            | 1.0 A (250mA for each port) |

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

### Electrical Specifications

| Parameter                                        | Frequency (MHz)                | Min.     | Typ. | Max. | Unit   |
|--------------------------------------------------|--------------------------------|----------|------|------|--------|
| <b>Frequency</b>                                 |                                | 500      |      | 6000 | MHz    |
| <b>Insertion Loss (above theoretical 6.0 dB)</b> | 500-3000                       | —        | 0.4  | 0.9  |        |
|                                                  | 3000-6000                      | —        | 0.6  | 1.3  | dB     |
| <b>Isolation</b>                                 | 500-600                        | 16       | 19   | —    |        |
|                                                  | 600-6000                       | 18       | 23   | —    | dB     |
| <b>Phase Unbalance</b>                           | 500-6000                       | —        | 2    | 6    | Degree |
| <b>Amplitude Unbalance</b>                       | 500-6000                       | —        | 0.15 | 0.4  | dB     |
| <b>VSWR (Port S)</b>                             | 500-600                        | —        | 1.3  | 1.5  |        |
|                                                  | 600-6000                       | —        | 1.25 | 1.5  | :1     |
| <b>VSWR (Port 1-4)</b>                           | 500-6000                       | —        | 1.15 | 1.25 | :1     |
| <b>Power Handling<sup>3</sup></b>                | <b>As Splitter<sup>1</sup></b> | 500-6000 | —    | 30   |        |
|                                                  | <b>As Combiner<sup>2</sup></b> | 500-6000 | —    | 0.5  | W      |

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.



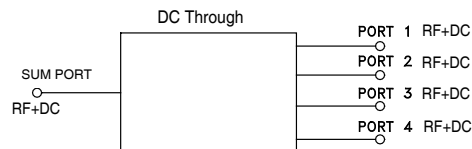
Generic photo used for illustration purposes only  
CASE STYLE: UU846-5

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

### +RoHS Compliant

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

### Electrical 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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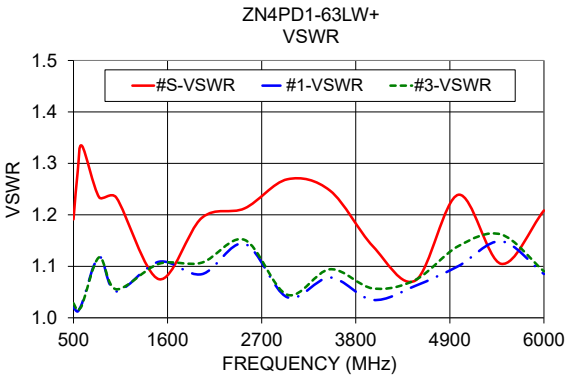
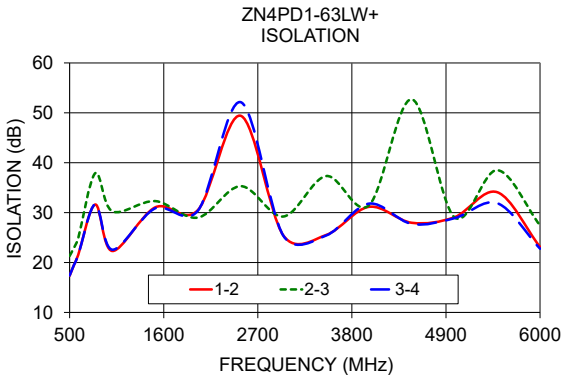
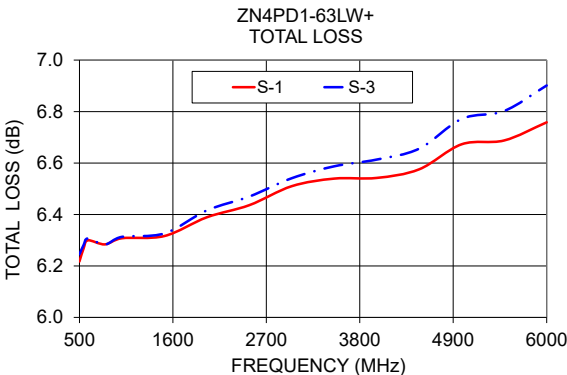


# ZN4PD1-63LW-S+

Typical Performance Data

| Freq.<br>(MHz) | Total Loss <sup>1</sup><br>(dB) |      |      |      | Amp.<br>Unbal.<br>(dB) | Isolation<br>(dB) |       |       | Phase<br>Unbal.<br>(deg.) | VSWR | VSWR | VSWR | VSWR | VSWR |
|----------------|---------------------------------|------|------|------|------------------------|-------------------|-------|-------|---------------------------|------|------|------|------|------|
|                | S-1                             | S-2  | S-3  | S-4  |                        | 1-2               | 2-3   | 3-4   |                           | S    | 1    | 2    | 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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