

Power Splitter/Combiner

ZN4PD1-63W+

4 Way-0° 50Ω 250 to 6000 MHz

The Big Deal

- Wideband performance
- Low amplitude and phase unbalance
- Good insertion loss



CASE STYLE: UU846

Product Overview

This four-way, in-phase splitter and combiner covers a wide frequency range between 250-6000MHz, making this splitter now suitable for GPS, GSM, DCS and PCS frequency bands, in addition to WiFi, Bluetooth and 802.11a uses. This model also features good insertion loss and amplitude and phase unbalance, and is packaged in a 3.5"x 4.5" enclosure with built-in SMA connectors for ease of use.

| Feature | Advantages |
|---|--|
| Operating over a very wide bandwidth from 250MHz to 6000MHz | The very wide bandwidth performance of the ZN4PD1-63W+ enables this splitter/combiner to be used in a wide range of applications including broadband systems such as test, measurement and defense/aerospace. However this model covers a variety of narrow band applications including GSM, GPS, DCS and PCS applications, in addition to WiFi, Bluetooth, 802.11a, U-NII and ISM applications. |
| Good insertion loss | With typical insertion loss of only 1.0dB above the splitter loss up to 4GHz, this splitter supports medium power signal distribution applications where loss is critical. |
| Good amplitude and phase performance | Typical amplitude unbalance of 0.2dB and phase unbalance of 2° make this splitter ideal for parallel path/multichannel systems. |



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IF/RF MICROWAVE COMPONENTS

For detailed performance specs
& shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

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4 Way-0° 50Ω 250 to 6000 MHz

Maximum Ratings

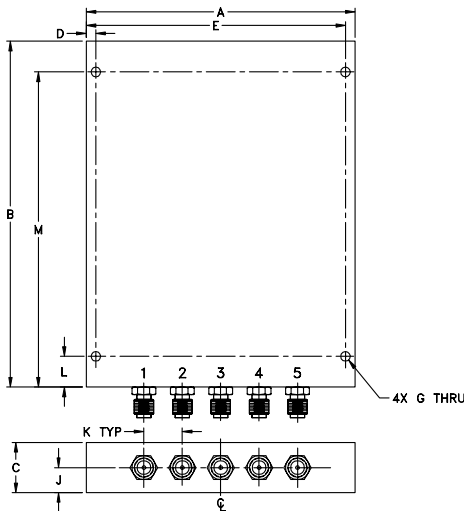
| | |
|-----------------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 10W max. |
| Internal Dissipation | 3W max. |

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 |
| 3.50 | 4.50 | .65 | .125 | 3.375 | -- | .125 |
| 88.90 | 114.30 | 16.51 | 3.18 | 85.73 | -- | 3.18 |
| H | J | K | L | M | | wt |
| -- | .33 | .50 | .400 | 4.100 | | grams |
| -- | 8.38 | 12.70 | 10.16 | 104.14 | | 288 |

Features

- wide frequency band, 250 to 6000 MHz
- low insertion loss, 1.0 dB typ.
- low amplitude unbalance 0.2 dB typ.
- low phase unbalance 2 deg. typ.

Applications

- high band PCS
- UNII
- ISM 802.11A
- WiFi
- Bluetooth

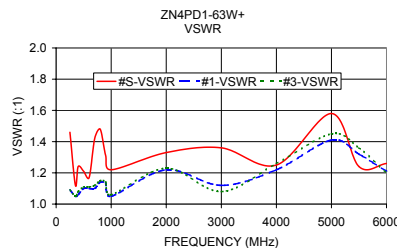
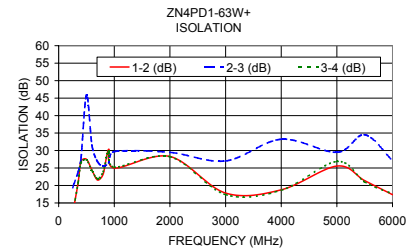
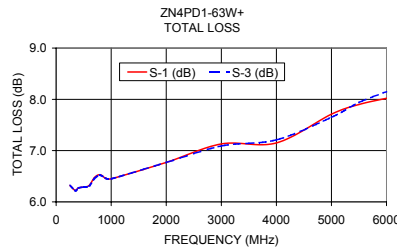
Electrical Specifications

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|------------------------------------|-----------------|------|------|------|--------|
| Frequency Range | | 250 | | 6000 | MHz |
| Insertion Loss Above 6.0 dB | 250-350 | — | 0.3 | 0.8 | dB |
| | 350-6000 | — | 1.2 | 3.0 | |
| Isolation | 250-350 | 8 | 14 | — | dB |
| | 350-5500 | 14 | 20 | — | |
| | 5500-6000 | 12 | 20 | — | |
| Phase Unbalance | 250-350 | — | — | 3 | Degree |
| | 350-6000 | — | — | 6 | |
| Amplitude Unbalance | 250-350 | — | — | 0.3 | dB |
| | 350-6000 | — | — | 0.6 | |
| VSWR Input | 250-350 | — | 1.2 | — | :1 |
| | 350-6000 | — | 1.3 | — | |
| VSWR Output | 250-350 | — | 1.1 | — | :1 |
| | 350-6000 | — | 1.3 | — | |

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 | | | | | | |
| 250.00 | 6.32 | 6.31 | 6.32 | 6.33 | 0.02 | 11.87 | 19.38 | 11.99 | 0.27 | 1.46 | 1.09 | 1.09 | 1.09 | 1.10 |
| 350.00 | 6.22 | 6.21 | 6.22 | 6.22 | 0.02 | 20.88 | 23.90 | 20.88 | 0.30 | 1.12 | 1.05 | 1.05 | 1.05 | 1.05 |
| 400.00 | 6.27 | 6.26 | 6.27 | 6.28 | 0.02 | 26.84 | 27.53 | 26.56 | 0.30 | 1.24 | 1.06 | 1.07 | 1.08 | 1.07 |
| 500.00 | 6.29 | 6.28 | 6.29 | 6.31 | 0.03 | 27.50 | 45.87 | 27.33 | 0.38 | 1.21 | 1.10 | 1.10 | 1.11 | 1.10 |
| 600.00 | 6.32 | 6.30 | 6.31 | 6.34 | 0.04 | 24.35 | 31.29 | 24.14 | 0.50 | 1.17 | 1.10 | 1.11 | 1.11 | 1.10 |
| 700.00 | 6.48 | 6.45 | 6.46 | 6.49 | 0.04 | 21.55 | 26.77 | 21.98 | 0.60 | 1.42 | 1.10 | 1.11 | 1.12 | 1.10 |
| 800.00 | 6.53 | 6.51 | 6.52 | 6.54 | 0.02 | 23.25 | 25.64 | 23.96 | 0.66 | 1.48 | 1.14 | 1.15 | 1.15 | 1.14 |
| 900.00 | 6.46 | 6.45 | 6.46 | 6.47 | 0.02 | 30.37 | 26.45 | 29.80 | 0.69 | 1.31 | 1.13 | 1.15 | 1.14 | 1.13 |
| 1000.00 | 6.45 | 6.44 | 6.45 | 6.46 | 0.02 | 25.00 | 29.71 | 25.26 | 0.70 | 1.22 | 1.05 | 1.06 | 1.06 | 1.06 |
| 2000.00 | 6.77 | 6.78 | 6.77 | 6.79 | 0.02 | 28.30 | 29.48 | 28.24 | 1.45 | 1.33 | 1.22 | 1.24 | 1.23 | 1.23 |
| 3000.00 | 7.13 | 7.20 | 7.09 | 7.15 | 0.10 | 17.84 | 27.02 | 17.39 | 1.70 | 1.36 | 1.12 | 1.11 | 1.08 | 1.12 |
| 4000.00 | 7.15 | 7.31 | 7.21 | 7.22 | 0.17 | 18.76 | 33.24 | 18.64 | 2.48 | 1.25 | 1.22 | 1.27 | 1.26 | 1.24 |
| 5000.00 | 7.71 | 7.79 | 7.65 | 7.82 | 0.17 | 25.57 | 29.50 | 26.88 | 3.27 | 1.58 | 1.41 | 1.44 | 1.45 | 1.42 |
| 5500.00 | 7.90 | 8.09 | 7.94 | 8.07 | 0.20 | 21.38 | 34.53 | 21.02 | 3.47 | 1.24 | 1.32 | 1.37 | 1.36 | 1.37 |
| 6000.00 | 8.02 | 8.27 | 8.15 | 8.27 | 0.25 | 17.38 | 27.14 | 17.61 | 4.04 | 1.26 | 1.21 | 1.22 | 1.20 | 1.24 |

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



Electrical Schematic



For detailed performance specs & shipping online see web site

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