

High Power, DC Pass

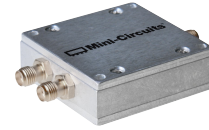
Power Splitter/Combiner

ZN2PD2-14W+

2 Way-0° 50Ω Up to 35W 500 to 10500 MHz

The Big Deal

- Wideband, 500 to 10500 MHz
- High power, up to 35W as a splitter
- Low insertion loss, 1.0 dB
- Low unbalance, 0.1 dB, 2°
- High isolation, 20 dB
- Excellent VSWR, 1.15:1 typ.



CASE STYLE: VVV845

Product Overview

Mini-Circuits' ZN2PD2-14W+ is a 2-way 0° high-power splitter/combiner providing up to 35W power handling as a splitter (1.0W as a combiner) and low insertion loss across the entire 500 to 10500 MHz frequency range. Its outstanding combination of high power handling and low loss minimize power dissipation and provide excellent signal power transmission from input to output. The ZN2PD2-14W+ comes housed in a rugged aluminum alloy case measuring 4.5 x 2.5 x 0.67" with SMA connectors.

Key Features

| Feature | Advantages |
|---|---|
| Wideband, 500 to 10500 MHz | This model supports bandwidth requirements for a wide variety of applications. |
| High power handling: <ul style="list-style-type: none">• 35W to 6800 MHz• 20W to 9800 MHz• 10W to 10500 MHz | The ZN2PD2-14W+ is suitable for systems with a wide range of power requirements. |
| Low insertion loss, 1.0 dB | The combination of 35W power handling and low insertion loss makes this model a suitable candidate for distributing signals while maintaining excellent transmission of signal power. |
| Low unbalance: <ul style="list-style-type: none">• 0.1 dB amplitude unbalance• 2° phase unbalance | Produces nearly equal output signals, ideal for parallel path and multichannel systems. |
| High isolation, 20 dB | Minimizes interference between ports. |
| DC Passing, 600mA (300mA each port) | Supports applications where DC power is needed through the RF line. |

Notes

- A. 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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document 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



Power Splitter/Combiner

ZN2PD2-14W+

2 Way-0° 50Ω 35W 500 to 10500 MHz

Maximum Ratings

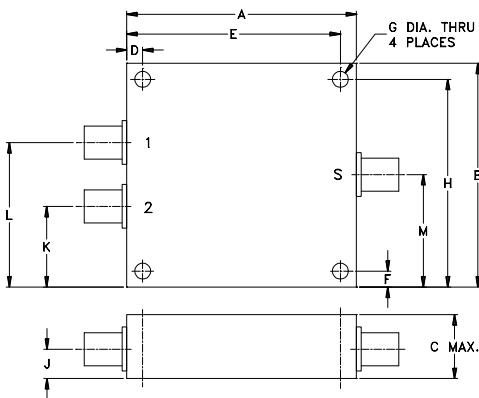
| | |
|--|------------------------------|
| Operating Temperature(@ $\sim 35W$) | -55°C to 60°C |
| Operating Temperature(@ $\sim 20W$) | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| DC Current | 600 mA (300mA for each port) |

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

Coaxial Connections

| | |
|---------|---|
| SUPPORT | S |
| PORT 1 | 1 |
| PORT 2 | 2 |

Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | |
|--------|-------|-------|-------|--------|------|-------|
| A | B | C | D | E | F | G |
| 4.50 | 2.50 | .67 | .400 | 4.100 | .125 | .125 |
| 114.30 | 63.50 | 17.02 | 10.16 | 104.14 | 3.18 | 3.18 |
| H | J | K | L | M | | wt |
| 2.375 | .33 | .75 | 1.75 | 1.25 | | grams |
| 60.33 | 8.38 | 19.05 | 44.45 | 31.75 | | 247 |

Features

- wideband, 500-10500 MHz
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 2 deg. typ.
- up to 35W power input as splitter

Applications

- UHF TV
- cellular/ISM/SMG/GSM
- GPS/L BAND (MARSAT)
- PCS/DCS/UMTS
- MMDC
- SATCOM
- defense and federal communications
- X band and S band



CASE STYLE: VVV845

| | |
|------------|---------------|
| Connectors | Model |
| SMA | ZN2PD2-14W-S+ |

+RoHS Compliant

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

Electrical Specifications at 25°C

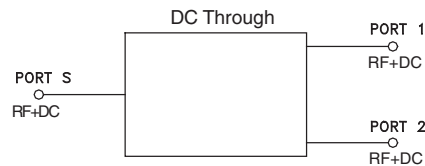
| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|--|--------------------------------|-----------|------|-------|--------|
| Frequency | | 500 | | 10500 | MHz |
| Insertion Loss (above theoretical 3.0 dB) | 500-10500 | — | 1.0 | 1.7 | dB |
| | 690-9800 | — | 0.9 | 1.5 | |
| | 850-6800 | — | 0.7 | 1.2 | |
| Isolation | 500-10500 | 11 | 17 | — | dB |
| | 690-9800 | 14 | 20 | — | |
| | 850-6800 | 20 | 24 | — | |
| Phase Unbalance | 500-10500 | — | 2.5 | 6 | Degree |
| | 690-9800 | — | 2 | 5 | |
| | 850-6800 | — | 1 | 4 | |
| Amplitude Unbalance | 500-10500 | — | 0.15 | 0.5 | dB |
| | 690-9800 | — | 0.1 | 0.4 | |
| | 850-6800 | — | 0.1 | 0.3 | |
| VSWR (Port S) | 500-10500 | — | 1.4 | 1.95 | :1 |
| | 690-9800 | — | 1.2 | 1.60 | |
| | 850-6800 | — | 1.15 | 1.40 | |
| VSWR (Port 1-2) | 500-10500 | — | 1.4 | 1.98 | :1 |
| | 690-9800 | — | 1.15 | 1.45 | |
| | 850-6800 | — | 1.10 | 1.35 | |
| Power Handling³ | As Splitter¹ | 500-10500 | — | 10 | W |
| | | 500-9800 | — | 20 | |
| | | 500-6800 | — | 35 | |
| | As Combiner² | 200-10500 | — | 1.0 | |

1. All outputs must terminate 50 ohm (VSWR 1.5:1 or better)

2. As a combiner of non-coherent signals, max. power per port is 1.0 watt power rating divided by number of ports.

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

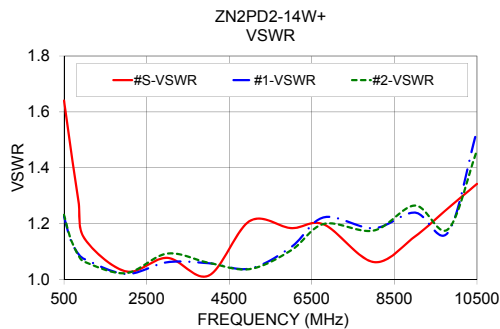
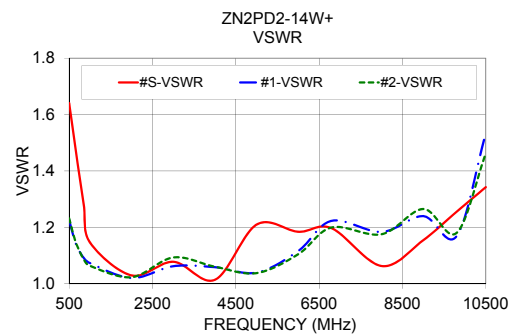
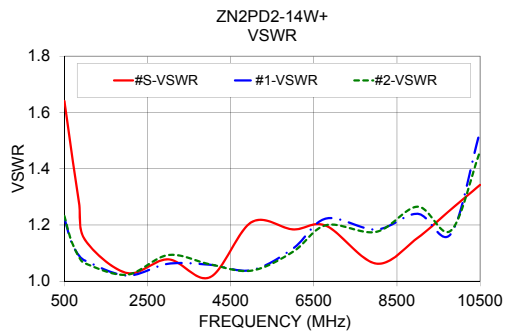
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Typical Performance Data

| Frequency (MHz) | Total Loss ¹ (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|--------------------|---------------------------------|------|--------------------------------|-------------------|------------------------------|-----------|-----------|-----------|
| | S-1 | S-2 | | | | | | |
| 500 | 3.40 | 3.40 | 0.00 | 12.78 | 0.00 | 1.64 | 1.23 | 1.23 |
| 600 | 3.34 | 3.34 | 0.00 | 15.01 | 0.04 | 1.53 | 1.17 | 1.17 |
| 690 | 3.28 | 3.29 | 0.00 | 17.28 | 0.05 | 1.44 | 1.13 | 1.13 |
| 850 | 3.22 | 3.22 | 0.00 | 22.59 | 0.11 | 1.28 | 1.09 | 1.09 |
| 1000 | 3.18 | 3.19 | 0.00 | 31.06 | 0.13 | 1.15 | 1.07 | 1.06 |
| 2000 | 3.26 | 3.25 | 0.01 | 42.35 | 0.16 | 1.03 | 1.02 | 1.02 |
| 3000 | 3.47 | 3.47 | 0.00 | 32.55 | 0.23 | 1.08 | 1.06 | 1.09 |
| 4000 | 3.56 | 3.57 | 0.01 | 26.12 | 0.47 | 1.01 | 1.06 | 1.06 |
| 5000 | 3.82 | 3.79 | 0.04 | 24.38 | 0.45 | 1.21 | 1.04 | 1.04 |
| 6000 | 3.76 | 3.79 | 0.03 | 26.98 | 0.29 | 1.18 | 1.12 | 1.10 |
| 6800 | 3.77 | 3.83 | 0.06 | 33.21 | 0.85 | 1.20 | 1.22 | 1.20 |
| 8000 | 3.83 | 3.81 | 0.02 | 21.51 | 0.94 | 1.06 | 1.18 | 1.18 |
| 9000 | 3.78 | 3.88 | 0.10 | 21.49 | 0.76 | 1.15 | 1.24 | 1.27 |
| 9800 | 4.06 | 4.12 | 0.06 | 17.23 | 1.54 | 1.26 | 1.17 | 1.18 |
| 10500 | 4.32 | 4.27 | 0.05 | 13.99 | 1.43 | 1.34 | 1.53 | 1.46 |

1. Total Loss = Insertion Loss + 3dB splitter loss.



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