

High Power, DC Pass

Power Splitter/Combiner

ZN2PD-9G+

2 Way-0° 50Ω 30W 1700 to 9000 MHz

The Big Deal

- Wideband, 1700 to 9000 MHz
- High power, up to 30W as a splitter
- Low insertion loss, 0.5 dB
- Low unbalance, 0.1 dB, 1°
- High isolation, 22 dB



CASE STYLE: VVV180

Product Overview

Mini-Circuits' ZN2PD-9G+ is a 2-way 0° high-power splitter/combiner providing up to 30W power handling as a splitter (0.8W as a combiner) and low insertion loss across the 1700 to 9000 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 ZN2PD-9G+ comes housed in a rugged aluminum alloy case measuring 1.8 x 1.75 x 0.65" with SMA connectors.

Key Features

| Feature | Advantages |
|--|---|
| Wideband, 1700 to 9000 MHz | This model supports bandwidth requirements for a wide variety of applications. |
| High power handling: <ul style="list-style-type: none">• 30W to 5800 MHz• 20W to 9000 MHz | The ZN2PD-9G+ is suitable for systems with a wide range of power requirements. |
| Low insertion loss, 0.5 dB | The combination of 30W 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• 1° phase unbalance | Produces nearly equal output signals, ideal for parallel path and multichannel systems. |
| High isolation, 22 dB | Minimizes interference between ports. |
| DC Passing, 400mA (200mA each port) | Supports applications where DC power is needed through the RF line. |

Notes

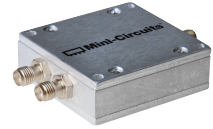
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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Power Splitter/Combiner

ZN2PD-9G+

2 Way-0° 50Ω 30W 1700 to 9000 MHz



CASE STYLE: VVV180

Connectors Model
SMA ZN2PD-9G-S+

+RoHS Compliant

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

Maximum Ratings

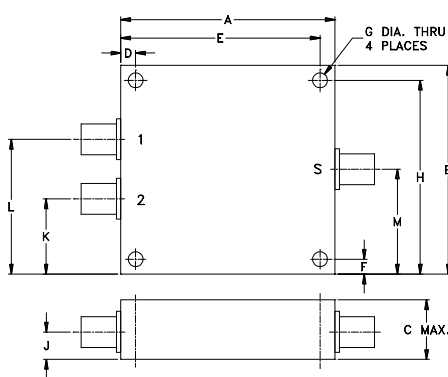
| | |
|------------------------------|------------------------------|
| Operating Temperature(@<30W) | -55°C to 60°C |
| Operating Temperature(@<10W) | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| DC Current | 400 mA (200mA for each port) |

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

Coaxial Connections

| | |
|---------|---|
| SUMPORT | S |
| PORT 1 | 1 |
| PORT 2 | 2 |

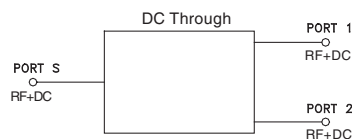
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | |
|-------|-------|-------|-------|-------|-------|------|
| A | B | C | D | E | F | G |
| 1.80 | 1.75 | .66 | .125 | 1.675 | .125 | .125 |
| 45.72 | 44.45 | 16.76 | 3.18 | 42.55 | 3.18 | 3.18 |
| H | J | K | L | M | wt | |
| 1.625 | .31 | .63 | 1.13 | .88 | grams | |
| 41.28 | 7.87 | 16.00 | 28.70 | 22.35 | 65.2 | |

electrical schematic



Features

- very wideband, 1700 to 9000 MHz
- low insertion loss, 0.5 dB typ.
- good isolation, 22 dB typ.
- up to 30W power input as splitter
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 1 deg. typ.
- rugged shielded case

Applications

- UHF/VHF
- PCS/DCS
- defense & federal communications
- wireless

Electrical Specifications at 25°C

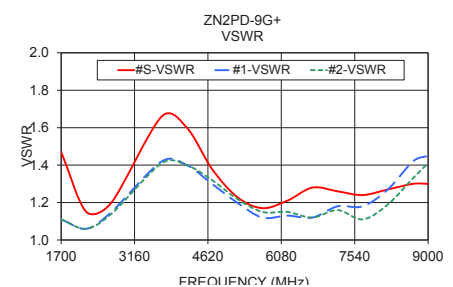
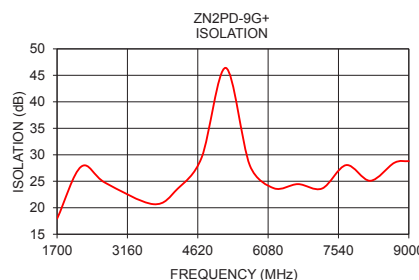
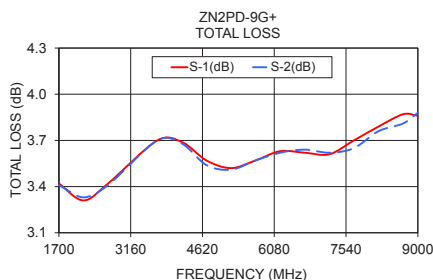
| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|--|--------------------------------|-----------|------|------|--------|
| Frequency Range | | 1700 | | 9000 | MHz |
| Insertion Loss (above theoretical 3 dB) | 1700-6800 | — | 0.5 | 1.2 | dB |
| | 6800-9000 | — | 1.0 | 1.4 | |
| Isolation | 1700-6800 | 15 | 19 | | dB |
| | 6800-9000 | 17 | 22 | | |
| Phase Unbalance | 1700-6800 | — | 1.0 | 3.5 | Degree |
| | 6800-9000 | — | 2.0 | 4.0 | |
| Amplitude Unbalance | 1700-6800 | — | 0.15 | 0.4 | dB |
| | 6800-9000 | — | 0.2 | 0.6 | |
| VSWR (Port S) | 1700-6800 | — | 1.5 | | dB |
| | 6800-9000 | — | 1.7 | | |
| VSWR Output (Port 1-2) | 1700-6800 | — | 1.4 | | dB |
| | 6800-9000 | — | 1.6 | | |
| Power Handling³ | As Splitter¹ | 1700-6800 | — | 30 | Watt |
| | As Combiner² | 6800-9000 | — | 20 | |
| | | 1700-9000 | — | 0.8 | |

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 0.8 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.

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 | | | | | | |
| 1700.00 | 3.42 | 3.41 | 0.01 | 17.93 | 0.12 | 1.47 | 1.11 | 1.11 |
| 2200.00 | 3.31 | 3.33 | 0.02 | 27.76 | 0.12 | 1.15 | 1.06 | 1.06 |
| 2700.00 | 3.42 | 3.41 | 0.01 | 24.71 | 0.27 | 1.20 | 1.15 | 1.14 |
| 3700.00 | 3.70 | 3.70 | 0.00 | 20.67 | 0.32 | 1.66 | 1.42 | 1.41 |
| 4200.00 | 3.69 | 3.68 | 0.01 | 23.57 | 0.43 | 1.60 | 1.40 | 1.40 |
| 4700.00 | 3.57 | 3.54 | 0.03 | 29.47 | 0.39 | 1.38 | 1.30 | 1.32 |
| 5200.00 | 3.52 | 3.51 | 0.01 | 46.41 | 0.43 | 1.23 | 1.20 | 1.22 |
| 5700.00 | 3.57 | 3.57 | 0.00 | 28.00 | 0.49 | 1.17 | 1.12 | 1.15 |
| 6200.00 | 3.63 | 3.62 | 0.01 | 23.68 | 0.52 | 1.21 | 1.13 | 1.15 |
| 6700.00 | 3.62 | 3.64 | 0.02 | 24.46 | 0.28 | 1.28 | 1.12 | 1.12 |
| 7200.00 | 3.61 | 3.62 | 0.01 | 23.63 | 0.44 | 1.26 | 1.18 | 1.16 |
| 7700.00 | 3.70 | 3.65 | 0.05 | 28.05 | 0.68 | 1.24 | 1.18 | 1.11 |
| 8200.00 | 3.79 | 3.76 | 0.03 | 25.09 | 0.72 | 1.27 | 1.27 | 1.19 |
| 8700.00 | 3.87 | 3.81 | 0.06 | 28.49 | 1.10 | 1.30 | 1.42 | 1.33 |
| 9000.00 | 3.86 | 3.88 | 0.03 | 28.80 | 0.94 | 1.30 | 1.45 | 1.41 |

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



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