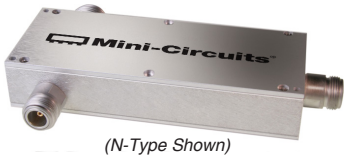
*High Power, DC Pass*

# Power Splitter/Combiner ZB2PD-63+

2 Way-0° 50Ω 30W 600 to 6000 MHz

## The Big Deal

- Wideband, 600 to 6000 MHz
- High power, up to 30W as a splitter
- Low insertion loss, 0.8 dB
- Low unbalance, 0.15 dB, 2˚
- High isolation, 19 dB




*(N-Type Shown)*
CASE STYLE: JJJ1457

## Product Overview

Mini-Circuits' ZB2PD-63+ is a 2-way 0˚ high-power splitter/combiner providing up to 30W power handling as a splitter (1.0W as a combiner) and low insertion loss across the entire 600 to 6000 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 ZB2PD-63+ comes housed in a rugged aluminum alloy case measuring 1.99 x 5.26 x 0.95" with your choice of SMA or N-type connectors.

## Key Features

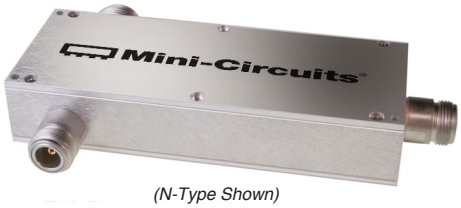
| Feature | Advantages |
|---|---|
| Wideband, 600 to 6000 MHz | This model supports bandwidth requirements for a wide variety of applications. |
| High power handling:<br>• 30W to 3600 MHz<br>• 20W to 6000 MHz | The ZB2PD-63+ is suitable for systems with a wide range of power requirements. |
| Low insertion loss, 0.8 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:<br>• 0.15 dB amplitude unbalance<br>• 2˚ phase unbalance | Produces nearly equal output signals, ideal for parallel path and multichannel systems. |
| High isolation, 19 dB | Minimizes interference between ports. |
| DC Passing, 400mA (200mA each port) | Supports applications where DC power is needed through the RF line. |

*High Power, DC Pass*

# Power Splitter/Combiner

## ZB2PD-63+

2 Way-0° 50Ω 30W 600 to 6000 MHz




*(N-Type Shown)*

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| Connectors | Model |
|---|---|
| **N-Type** | ZB2PD-63-N+ |
| **SMA** | ZB2PD-63-S+ |

### Maximum Ratings

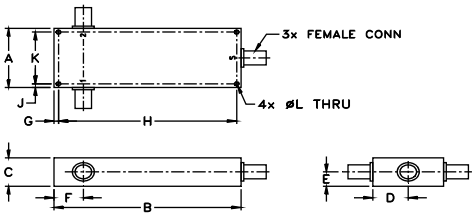
| | |
|---|---|
| Operating Temperature(@<30W) | -55°C to 60°C |
| Operating Temperature(@<10W) | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| DC Current | 400 mA (200mA for each port) |

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

### Coaxial Connections

| | |
|---|---|
| SUM PORT | S |
| PORT 1 | 1 |
| PORT 2 | 2 |

### Outline Drawing




### Outline Dimensions (inch / mm)

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 1.99 | 5.26 | .95 | 1.00 | .51 | .83 |
| 50.55 | 133.60 | 24.13 | 25.40 | 12.95 | 21.08 |

| G | H | J | K | L | wt |
|---|---|---|---|---|---|
| .13 | 5.010 | .13 | 1.740 | .125 | grams |
| 3.30 | 127.25 | 3.30 | 44.20 | 3.18 | 350.0 |

### Features

- low insertion loss, 0.8 dB typ.
- wideband, 600 to 6000 MHz
- excellent amplitude unbalance, 0.15 dB typ.
- excellent phase unbalance, 2 deg. typ.
- up to 30W power input as splitter
- rugged shielded case

### Applications

- UHF TV
- cellular/ISM/SMG/GSM
- satellite distribution
- GPS/L BAND (MARSAT)
- PCS/DCS/UMTS
- MMDC
- SATCOM
- Instrumentation

***+RoHS Compliant***

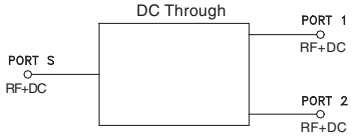
*The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications*

### Electrical Specifications at 25°C

| Parameter | | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| **Frequency** | | | 600 | | 6000 | MHz |
| **Insertion Loss (above theoretical 3.0 dB)** | | 600-1600 | — | 0.3 | 0.5 | dB |
| | | 1600-2700 | — | 0.4 | 0.6 | |
| | | 2700-3600 | — | 0.5 | 0.8 | |
| | | 3600-6000 | — | 0.9 | 1.2 | |
| **Isolation** | | 600-1600 | 16 | 19 | — | dB |
| | | 1600-2700 | 16 | 19 | — | |
| | | 2700-3600 | 17 | 21 | — | |
| | | 3600-6000 | 12 | 15 | — | |
| **Phase Unbalance** | | 600-1600 | — | 1.5 | 4 | Degree |
| | | 1600-2700 | — | 2.4 | 5 | |
| | | 2700-3600 | — | 2.6 | 7 | |
| | | 3600-6000 | — | 4.6 | 9 | |
| **Amplitude Unbalance** | | 600-1600 | — | 0.1 | 0.2 | dB |
| | | 1600-2700 | — | 0.1 | 0.2 | |
| | | 2700-3600 | — | 0.1 | 0.3 | |
| | | 3600-6000 | — | 0.2 | 0.4 | |
| **VSWR (Port S)** | | 600-1600 | — | 1.33 | — | :1 |
| | | 1600-2700 | — | 1.38 | — | |
| | | 2700-3600 | — | 1.48 | — | |
| | | 3600-6000 | — | 1.72 | — | |
| **VSWR (Port 1-2)** | | 600-1600 | — | 1.23 | — | :1 |
| | | 1600-2700 | — | 1.26 | — | |
| | | 2700-3600 | — | 1.48 | — | |
| | | 3600-6000 | — | 1.53 | — | |
| **Power Handling[3]** | **As Splitter[1]** | 600-3600 | — | — | 30 | W |
| | | 3600-6000 | — | — | 20 | |
| | **As Combiner[2]** | 600-3600 | — | — | 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

**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.
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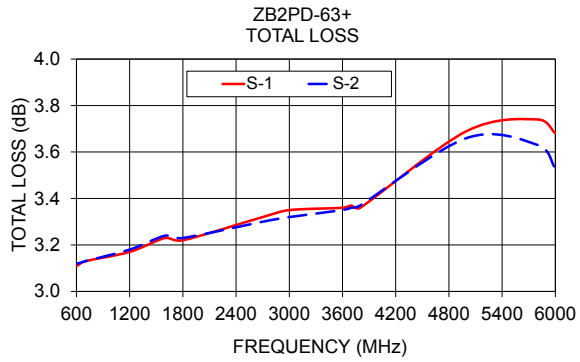
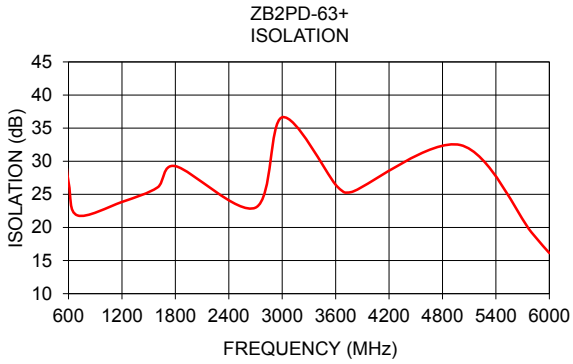
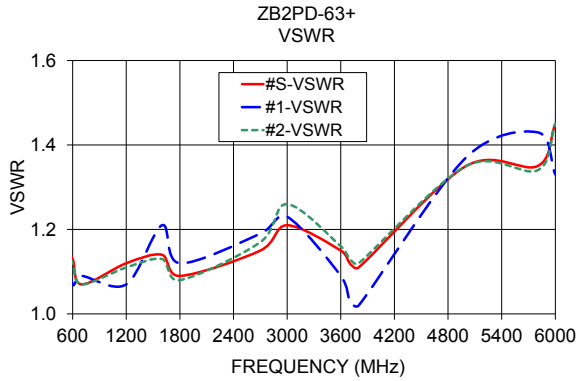
## Typical Performance Data

| Frequency (MHz) | Total Loss[1] (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|---|---|---|---|---|---|---|---|---|
| | S-1 | S-2 | | | | | | |
| 600.00 | 3.11 | 3.12 | 0.01 | 26.85 | 0.12 | 1.13 | 1.07 | 1.12 |
| 700.00 | 3.13 | 3.13 | 0.01 | 21.82 | 0.14 | 1.07 | 1.09 | 1.07 |
| 1200.00 | 3.17 | 3.18 | 0.01 | 23.85 | 0.26 | 1.12 | 1.07 | 1.11 |
| 1600.00 | 3.23 | 3.24 | 0.01 | 26.05 | 0.37 | 1.14 | 1.21 | 1.13 |
| 1800.00 | 3.22 | 3.23 | 0.01 | 29.26 | 0.43 | 1.09 | 1.12 | 1.08 |
| 2700.00 | 3.32 | 3.30 | 0.02 | 22.99 | 0.77 | 1.15 | 1.19 | 1.17 |
| 3000.00 | 3.35 | 3.32 | 0.03 | 36.64 | 0.74 | 1.21 | 1.23 | 1.26 |
| 3600.00 | 3.36 | 3.35 | 0.02 | 26.45 | 0.71 | 1.15 | 1.09 | 1.16 |
| 3700.00 | 3.37 | 3.36 | 0.01 | 25.29 | 0.70 | 1.12 | 1.03 | 1.13 |
| 3800.00 | 3.36 | 3.37 | 0.00 | 25.45 | 0.72 | 1.11 | 1.02 | 1.12 |
| 5000.00 | 3.69 | 3.66 | 0.02 | 32.45 | 1.33 | 1.35 | 1.37 | 1.35 |
| 5800.00 | 3.74 | 3.63 | 0.10 | 19.25 | 1.82 | 1.35 | 1.43 | 1.34 |
| 6000.00 | 3.68 | 3.53 | 0.15 | 16.13 | 1.64 | 1.45 | 1.33 | 1.45 |

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

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