High Power, DC Pass

Power Splitter/Combiner

ZB3PD-63+

3 Way-0° 50Ω 150 to 6000 MHz



CASE STYLE:UU1332

The Big Deal

- Wideband, 150 to 6000 MHz
- High power, up to 30W as a splitter
- Low insertion loss, 1.0 dB
- High isolation, 20 dB

Product Overview

Mini-Circuits' ZB3PD-63+ is a 3-way 0˚ high-power splitter/combiner providing up to 30W power handling as a splitter (0.9W as a combiner) and low insertion loss across the entire 150 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 ZB3PD-63+ comes housed in a rugged aluminum alloy case measuring 4.5 x 6.00 x 0.88" with your choice of SMA or N-type connectors.

Key Features

Feature	Advantages
Wideband, 150 to 6000 MHz	This model supports bandwidth requirements for a wide variety of applications.
High power handling: • 30W to 4000 MHz • 20W to 6000 MHz	The ZB3PD-63+ is suitable for systems with a wide range of power requirements.
Low insertion loss, 1.0 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.
High isolation, 20 dB	Minimizes interference between ports.
DC Passing, 750mA (250mA 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

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ZB3PD-63+

3 Way-0° 50Ω 30W 150 to 6000 MHz



CASE STYLE: UU1332

Connectors	Model
SMA	ZB3PD-63-S+
N-Type	ZB3PD-63-N+

+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	750 mA (250mA 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
PORT 3	3

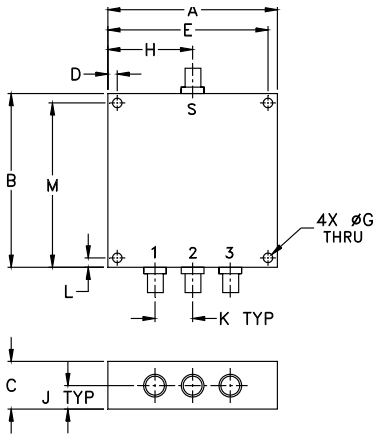
Features

- wideband, 150 to 6000 MHz
- low insertion loss, 1 dB typ.
- good isolation, 20 dB typ.
- good amplitude unbalance, 0.5 dB typ.
- power handling up to 30W

Applications

- cellular
- PCN
- instrumentation

Outline Drawing

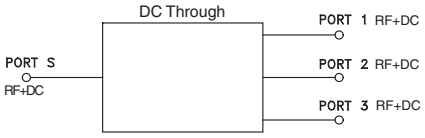


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
4.50	6.00	.88	.15	4.350	_	.156
114.30	152.40	22.35	3.81	110.49	_	3.96

H	J	K	L	M		wt
2.25	.44	1.50	0.15	5.85		grams
57.15	11.18	38.10	3.81	148.59		760

Electrical Schematic



Electrical Specifications at 25°C

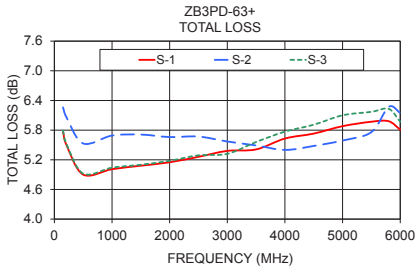
Parameter		Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range			150		6000	MHz
Insertion Loss (above theoretical 4.8 dB)		150-600 600-5000 5000-6000	— — —	1.0 0.5 1.5	1.6 2.1 2.2	dB
Isolation		150-600 600-5000 5000-6000	8 16 12	— 20 —	— — —	dB
Phase Unbalance		150-600 600-5000 5000-6000	— — —	3 7 7	5 16 16	Degree
Amplitude Unbalance		150-600 600-5000 5000-6000	— — —	0.7 0.5 0.5	1.0 1.0 1.0	dB
Power Handling[3]	**As Splitter**[1]	150-4000 4000-6000	— —	— —	**30** **20**	Watt
	As Combiner[2]	150-6000	—	—	**0.9**	

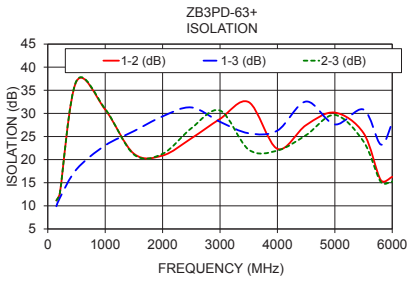
1. All outputs must terminate 50 ohm (VSWR 1.5:1 or better)
2. As a combiner of non-coherent signals, max. power per port is 0.9 watt power rating divided by number of ports.
3. Alternative heat sinking and heat removal must be provided by the user to limit maximum base-plate temperature to 60°C, in order to ensure proper performance. For reference, this requires thermal resistance of user's external heat sink to be 10°C/W.

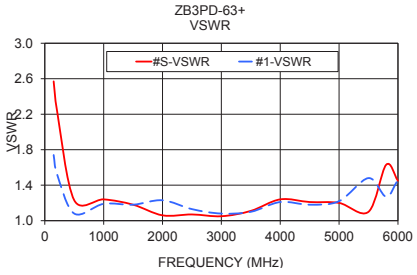
Typical Performance Data

Freq. (MHz)	Total Loss[1] (dB)			Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3
	S-1	S-2	S-3		1-2	1-3	2-3					
150.00	5.77	6.26	5.79	0.50	11.14	9.91	11.16	1.34	2.57	1.74	1.37	1.74
210.00	5.50	6.06	5.52	0.57	12.73	11.71	12.75	0.96	2.23	1.52	1.23	1.53
500.00	4.90	5.53	4.92	0.63	36.94	17.90	37.05	0.71	1.23	1.08	1.21	1.08
1000.00	5.01	5.69	5.04	0.67	30.82	23.07	30.96	2.37	1.24	1.19	1.26	1.21
1500.00	5.08	5.71	5.10	0.63	21.28	26.16	21.10	4.33	1.18	1.18	1.38	1.20
2000.00	5.15	5.66	5.18	0.51	20.88	29.36	21.26	5.79	1.06	1.23	1.63	1.24
2500.00	5.26	5.67	5.29	0.41	24.60	31.29	26.78	6.97	1.07	1.13	1.55	1.13
3000.00	5.38	5.57	5.32	0.24	28.81	28.18	30.62	8.10	1.05	1.08	1.38	1.06
3500.00	5.41	5.49	5.56	0.15	32.44	25.70	22.15	9.08	1.11	1.10	1.17	1.12
4000.00	5.63	5.40	5.77	0.37	22.33	26.28	21.96	8.59	1.24	1.21	1.28	1.26
4500.00	5.73	5.48	5.91	0.43	27.47	32.57	25.31	6.68	1.21	1.18	1.57	1.20
5000.00	5.88	5.59	6.10	0.51	30.17	27.61	29.67	6.45	1.20	1.22	1.58	1.25
5500.00	5.97	5.76	6.17	0.41	25.74	30.83	23.91	2.67	1.10	1.48	1.57	1.46
5800.00	5.98	6.27	6.23	0.29	15.58	23.27	15.18	3.03	1.63	1.27	1.36	1.27
6000.00	5.81	6.15	5.97	0.35	16.27	27.88	15.25	6.79	1.45	1.46	1.55	1.48

1. Total Loss = Insertion Loss + 4.8dB splitter loss.







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