High Power, DC Pass

Power Splitter/Combiner ZN2PD2-14W-S+

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-S+ 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-S+ 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: • 35W to 6800 MHz • 20W to 9800 MHz • 10W to 10500 MHz	The ZN2PD2-14W-S+ 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: • 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.

High Power, DC Pass

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Connectors	Model
SMA	ZN2PD2-14W-S+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature(@<35W)	-55°C to 60°C
Operating Temperature(@<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

SUMPORT	S
PORT 1	1
PORT 2	2

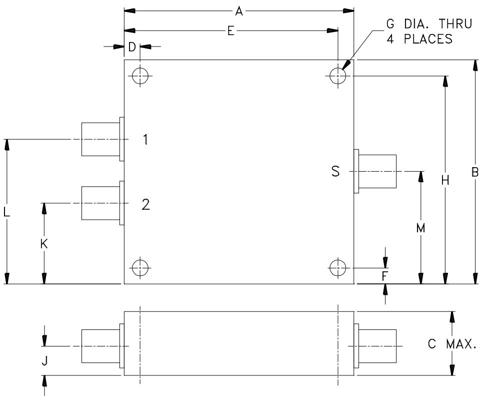
Features

- 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

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

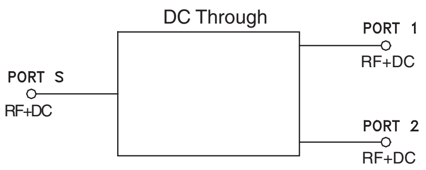
H	J	K	L	M	wt
					grams
2.375	.33	.75	1.75	1.25	
60.33	8.38	19.05	44.45	31.75	247

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 Handling[3]	**As Splitter**[1]	500-10500	—	—	10	W
		500-9800	—	—	20	
		500-6800	—	—	35	
	As Combiner[2]	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 maxmum 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



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.