

DC Pass, Ultra-Thin

Power Splitter/Combiner ZN4PD-33SMP+

4 Way-0° 50Ω 500 to 3000 MHz

The Big Deal

- Wideband, 500 - 3000 MHz
- Low insertion loss, 0.9 dB
- High power handling, 10W as a splitter
- Ultra-thin case, 0.3" height (7.92mm)
- SMP snap-on connectors



CASE STYLE: UU2046-2

Product Overview

Mini-Circuits' ZN4PD-33SMP+ is a connectorized wideband 4-way 0° power splitter/combiner supporting a wide variety of applications from 500 to 3000 MHz. This model is capable of handling up to 10W RF input power as a splitter and provides low insertion loss, good isolation, excellent amplitude unbalance, high isolation and low insertion loss. It comes housed in an ultra-thin, aluminum alloy case (3.1 x 3.3 x 0.3") with SMP snap-on connectors, saving space in crowded system layouts.

Key Features

Feature	Advantages
Wideband, 500 to 3000 MHz	ZN4PD-33SMP+ supports bandwidth requirements for a wide variety of applications.
Ultra-thin case design, 3.1 x 3.3 x 0.3"	Saves space in crowded system layouts.
Blind mate, snap-on SMP connectors	Blind mate SMP connectors enable direct connection to adjacent modules while facilitating thin case height.
Power handling up to 10W as a splitter	Supports a wide variety of high-power requirements.
Low insertion loss, 0.9 dB	Provides excellent signal power transmission, making this model ideal for signal distribution applications where low loss is a requirement.
Low unbalance: • Phase unbalance, 3° • Amplitude unbalance, 0.2 dB	Produces nearly equal output signals, ideal for parallel path / multichannel systems.
High isolation, 22 dB	Minimizes interference between input ports.
DC Passing, 1.0A (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



DC Pass Ultra-Thin

Power Splitter/Combiner

ZN4PD-33SMP+

4 Way-0° 50Ω 500 to 3000 MHz

Maximum Ratings

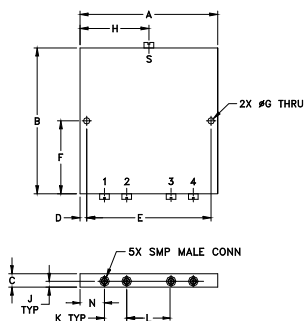
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	1.2W max.
DC Current	1.0 A (250mA for each port)

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
PORT 4	4

Outline Drawing

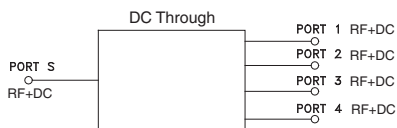


Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
3.10	3.28	.30	.150	2.8	1.64	0.14
78.74	83.31	7.62	3.81	71.12	41.66	3.6576

H	J	K	L	N	wt
1.55	0.13	0.500	1	.55	grams
39.37	3.302	12.7	25.4	13.97	85

Electrical Schematic



Features

- wideband, 500 to 3000 MHz
- ultra-thin package
- power input up to 10W
- excellent amplitude unbalance, 0.2 dB typ.
- high isolation, 22 dB typ.
- low insertion loss, 0.9 dB typ.

Applications

- UHF
- cellular, GPS, PCS
- receivers/transmitters
- instrumentation
- CATV

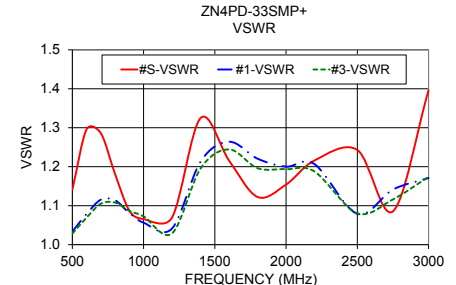
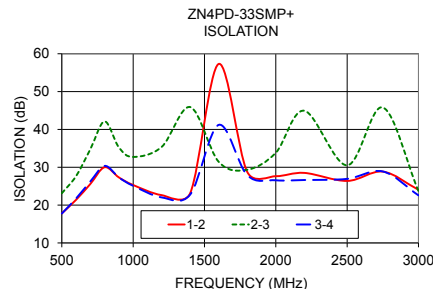
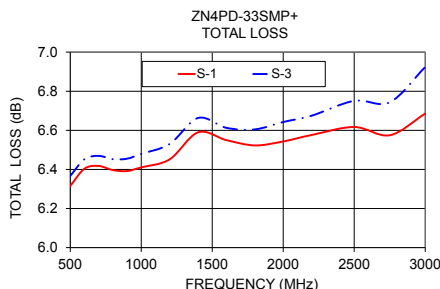
Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		500	—	3000	MHz
Insertion Loss (above theoretical 6.0 dB)	500-3000	—	0.9	1.5	dB
	690-2750	—	0.8	1.3	
Isolation	500-3000	15	20	—	dB
	690-2750	19	22	—	
Phase Unbalance	500-3000	—	3.0	7	Degree
	690-2750	—	2.5	6	
Amplitude Unbalance	500-3000	—	0.3	0.8	dB
	690-2750	—	0.2	0.5	
VSWR (Port S)	500-3000	—	1.3	1.65	:1
VSWR Output (Port 1-4)	500-3000	—	1.2	1.5	:1

Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)				Amp. Unbal. (dB)	Isolation (dB)			VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4					
500	6.32	6.31	6.37	6.37	0.06	17.81	23.13	17.78	1.14	1.03	1.04	1.03	1.03
600	6.40	6.40	6.45	6.45	0.05	21.40	27.66	21.76	1.30	1.08	1.09	1.07	1.07
700	6.42	6.41	6.47	6.46	0.06	25.59	34.78	26.25	1.29	1.12	1.12	1.11	1.10
800	6.40	6.39	6.45	6.44	0.06	30.01	42.11	30.36	1.18	1.11	1.12	1.11	1.10
900	6.39	6.38	6.45	6.44	0.08	27.32	35.26	27.31	1.09	1.08	1.09	1.09	1.08
1000	6.41	6.40	6.48	6.46	0.08	25.32	32.73	25.10	1.07	1.06	1.07	1.07	1.05
1200	6.45	6.44	6.53	6.50	0.09	22.64	35.38	22.04	1.07	1.04	1.03	1.03	1.02
1400	6.59	6.59	6.66	6.63	0.08	23.18	45.91	22.80	1.32	1.21	1.18	1.20	1.20
1600	6.55	6.56	6.61	6.58	0.06	57.31	31.43	41.21	1.22	1.26	1.22	1.24	1.22
1800	6.52	6.55	6.60	6.55	0.08	28.76	29.35	27.90	1.12	1.22	1.19	1.20	1.16
2000	6.54	6.59	6.64	6.57	0.10	27.65	33.84	26.57	1.15	1.20	1.18	1.19	1.14
2200	6.58	6.63	6.67	6.59	0.10	28.51	44.94	26.64	1.22	1.21	1.20	1.19	1.15
2500	6.62	6.69	6.75	6.66	0.13	26.39	30.50	26.94	1.24	1.08	1.07	1.08	1.04
2750	6.57	6.67	6.74	6.64	0.17	28.85	45.82	28.90	1.09	1.14	1.12	1.12	1.11
3000	6.69	6.82	6.92	6.78	0.24	24.05	23.69	22.57	1.40	1.17	1.19	1.17	1.16

1. Total Loss = Insertion Loss + 6dB splitter loss.



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