DC Pass

Power Splitter/Combiner ZN4PD-02183-S+

4 Way-0° 50Ω 2000 to 18000 MHz

The Big Deal

- Ultra-wideband, 2 to 18 GHz
- Low insertion loss, 1.0 dB
- Good power handling, 30W as a splitter
- Low unbalance, 0.3 dB, 3.5˚
- High isolation, 20 dB



CASE STYLE: UU2413

Product Overview

Mini-Circuits' ZN4PD-02183-S+ is a 4-way 0˚ ultra-wideband splitter/combiner supporting a wide range of applications from 2 to 18 GHz. This model is capable of handling up to 30W RF input power as a splitter with low insertion loss across its full frequency range, providing excellent signal power transmission from input to output. It delivers nearly equal output signals with low amplitude unbalance and low phase unbalance, and excellent isolation minimizing interference between channels. The ZN4PD-02183-S+ comes housed in a rugged, compact aluminum alloy case measuring 2.5 x 4.0 x 0.38" with SMA-Female connectors.

Key Features

Feature	Advantages
Ultra-wideband, 2 to 18 GHz	A single model supports bandwidth requirements for a wide variety of applications including EW, ECM, test instrumentation, ISM and more.
High power handling, 30W as a splitter	The ZN4PD-02183-S+ 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.
Low unbalance: • 0.3 dB amplitude unbalance • 3.5˚ 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 (150mA each port)	Supports applications where DC power is needed through the RF line.

Notes
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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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ZN4PD-02183-S+

4 Way-0° 50Ω 2000 to 18000 MHz



Generic photo used for illustration purposes only

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Connectors	Model
SMA-Female	ZN4PD-02183-S+

+RoHS Compliant

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	30W max.
Internal Dissipation	0.5W max.
DC Current	600mA (150mA 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

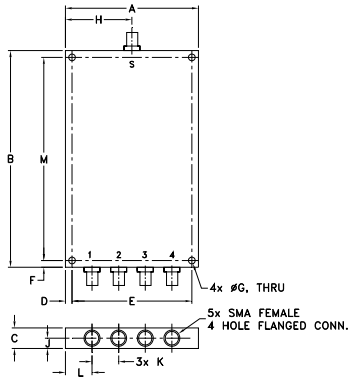
Features

- wideband, 2000 to 18000 MHz
- low insertion loss, 1.0 dB typ.
- low amplitude unbalance, 0.3 dB typ.
- low phase unbalance,3.5 deg. typ.
- high isolation, 20 dB typ.
- DC Pass from sum port to all output ports

Applications

- EW, ECM
- test equipment
- test lab
- ISM

Outline Drawing

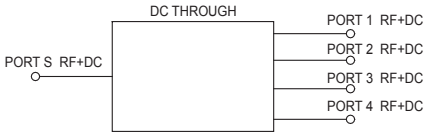


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
2.50	4.00	.38	.13	2.250	.13	.125
63.50	101.60	9.65	3.30	57.15	3.30	3.18

H	J	K	L	M	N	wt
1.25	.19	.500	.50	3.750	--	grams
31.75	4.83	12.70	12.70	95.25	--	320

Electrical Schematic



Electrical Specifications at 25°C

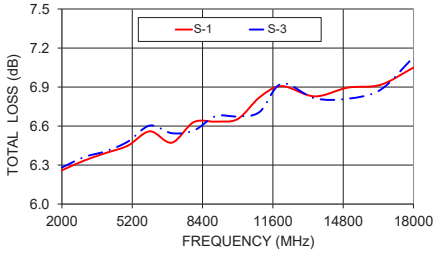
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		2000	—	18000	MHz
Insertion Loss (above theoretical 6.0 dB)	2000 - 18000	—	1.0	1.6	dB
Isolation	2000 - 18000	16	20	—	dB
Phase Unbalance	2000 - 18000	—	3.5	6	Degree
Amplitude Unbalance	2000 - 18000	—	0.3	0.8	dB
VSWR (Port S)	2000 - 18000	—	1.45	1.8	:1
VSWR Output (Port 1-4)	2000 - 18000	—	1.35	1.5	:1

Typical Performance Data

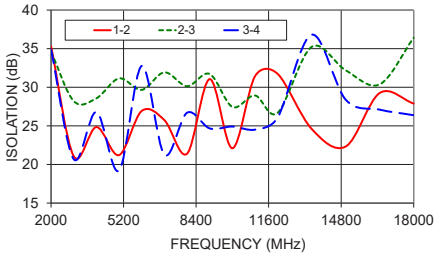
Freq. (MHz)	Total Loss[1] (dB)				Amp. Unbal. (dB)	Isolation (dB)			VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4					
2000.00	6.26	6.27	6.28	6.28	0.01	35.32	34.59	34.89	1.10	1.17	1.17	1.18	1.19
3000.00	6.33	6.35	6.36	6.36	0.02	21.08	28.21	20.69	1.23	1.05	1.06	1.10	1.08
4000.00	6.39	6.42	6.41	6.40	0.03	24.85	28.57	26.80	1.24	1.07	1.04	1.04	1.03
5000.00	6.45	6.45	6.48	6.46	0.00	21.22	31.15	19.20	1.20	1.13	1.09	1.09	1.08
6000.00	6.56	6.57	6.60	6.59	0.01	26.93	29.66	32.76	1.36	1.20	1.17	1.27	1.25
7000.00	6.47	6.52	6.54	6.52	0.05	25.75	31.93	21.26	1.07	1.14	1.17	1.18	1.14
8000.00	6.63	6.66	6.57	6.54	0.03	21.40	30.14	26.70	1.19	1.12	1.17	1.10	1.08
9000.00	6.63	6.67	6.68	6.66	0.04	31.06	31.72	24.67	1.25	1.09	1.15	1.12	1.10
10000.00	6.65	6.73	6.67	6.69	0.07	22.10	27.45	24.92	1.23	1.23	1.22	1.25	1.28
11000.00	6.82	6.82	6.71	6.72	0.00	31.44	28.93	24.51	1.35	1.40	1.33	1.18	1.20
12000.00	6.91	6.90	6.93	6.95	0.01	31.73	26.70	26.08	1.52	1.39	1.30	1.26	1.30
13500.00	6.83	6.89	6.81	6.81	0.06	24.60	35.23	36.81	1.19	1.19	1.15	1.04	1.06
15000.00	6.90	6.95	6.81	6.79	0.05	22.33	32.20	28.39	1.13	1.18	1.21	1.13	1.11
16500.00	6.92	7.01	6.88	6.85	0.09	29.26	30.37	27.10	1.17	1.21	1.20	1.12	1.09
18000.00	7.05	7.14	7.13	7.13	0.09	27.89	36.41	26.38	1.43	1.38	1.34	1.29	1.38

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

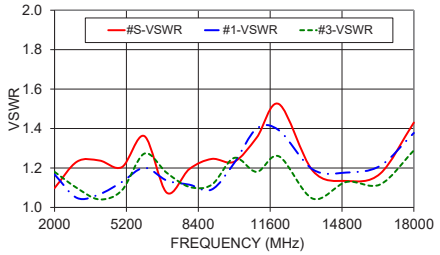
ZN4PD-02183-S+
TOTAL LOSS



ZN4PD-02183-S+
ISOLATION



ZN4PD-02183-S+
VSWR



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