DC Pass

Power Splitter/Combiner ZN8PD-02183+

8 Way-0° 50Ω 2000 to 18000 MHz

The Big Deal

- Ultra-wideband, 2 to 18 GHz
- Low insertion loss, 1.4 dB
- Good power handling, 20W as a splitter
- Low unbalance, 0.3 dB, 5.0˚
- High isolation, 20 dB



CASE STYLE: UU2415

Product Overview

Mini-Circuits' ZN4PD-02183+ is a 8way 0˚ ultra-wideband splitter/combiner supporting a wide range of applications from 2 to 18 GHz. This model is capable of handling up to 20W 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 ZN8PD-02183+ comes housed in a rugged, compact aluminum alloy case measuring 4.46 x 5.75 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, 20W as a splitter	The ZN8PD-02183+ is suitable for systems with a wide range of power requirements.
Low insertion loss, 1.4 dB	The combination of 20W 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 • 5.0˚ phase unbalance	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
High isolation, 20 dB	Minimizes interference between ports.
DC Passing, 1.2A (150mA each port)	Supports applications where DC power is needed through the RF line.

Notes
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Connectors	Model
SMA-Fem	ZN8PD-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)	20W max.
Internal Dissipation	0.5W max.
DC Current	1.2A (150mA for each port)

Coaxial Connections

SUM PORT	S
PORT 1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8

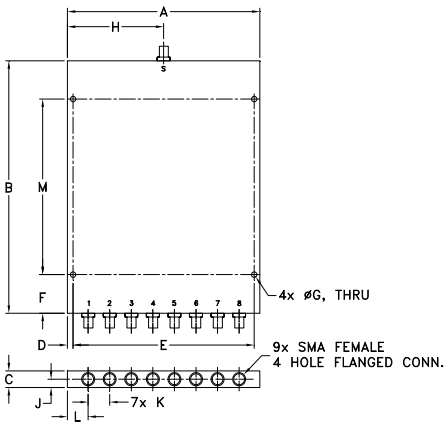
Features

- wideband, 2000 to 18000 MHz
- low insertion loss, 1.4 dB typ.
- low amplitude unbalance, 0.3 dB typ.
- low phase unbalance, 5.0 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

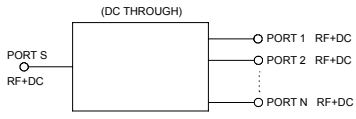


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
4.46	5.75	.38	.13	4.200	.88	.125
113.28	146.05	9.65	3.30	106.68	22.35	3.18

H	J	K	L	M	N	wt
2.23	.19	.500	.48	4.000	--	grams
56.64	4.83	12.70	12.19	101.60	--	800

Electrical Schematic



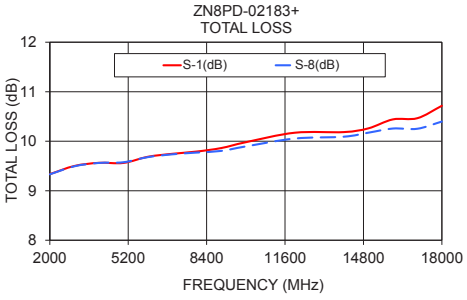
Electrical Specifications at 25°C

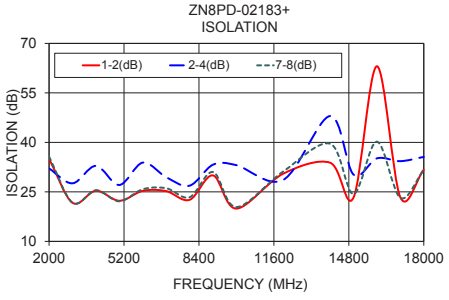
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		2000	—	18000	MHz
Insertion Loss (above theoretical 9.0 dB)	2000 - 18000	—	1.4	2.4	dB
Isolation	2000 - 18000	16	20	—	dB
Phase Unbalance	2000 - 18000	—	5	10	Degree
Amplitude Unbalance	2000 - 18000	—	0.3	1.0	dB
VSWR (Port S)	2000 - 18000	—	1.38	1.9	:1
VSWR Output (Port 1-8)	2000 - 18000	—	1.28	1.5	:1

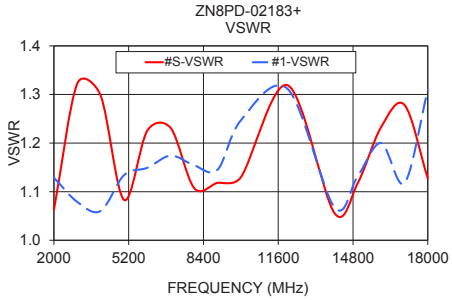
Typical Performance Data

Freq. (MHz)	Total Loss[1] (dB)						Amp. Unb. (dB)	Isolation (dB)				Phase Unb. (deg.)	VSWR S	VSWR 1	VSWR 8
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-3	3-4	6-7				
2000	9.34	9.34	9.35	9.34	9.33	9.33	0.00	35.02	32.10	31.97	35.68	0.48	1.06	1.13	1.10
3000	9.50	9.51	9.51	9.51	9.50	9.49	0.01	21.70	27.59	27.50	21.69	0.67	1.32	1.08	1.10
4000	9.56	9.57	9.58	9.58	9.56	9.56	0.01	25.34	32.88	32.93	25.50	0.93	1.30	1.06	1.11
5000	9.56	9.57	9.58	9.59	9.56	9.58	0.01	22.30	27.08	27.11	22.14	1.17	1.08	1.13	1.15
6000	9.69	9.70	9.70	9.69	9.68	9.68	0.01	25.30	33.87	34.05	25.79	1.45	1.23	1.15	1.17
7000	9.75	9.76	9.76	9.75	9.74	9.74	0.01	25.23	29.46	29.25	26.10	1.70	1.23	1.17	1.21
8000	9.79	9.80	9.82	9.79	9.78	9.77	0.00	22.58	26.88	26.66	23.36	2.07	1.11	1.15	1.15
9000	9.86	9.85	9.87	9.86	9.82	9.81	0.01	29.98	33.23	33.72	31.00	2.34	1.12	1.15	1.08
10000	9.98	9.93	9.93	9.92	9.93	9.90	0.05	19.93	33.09	33.68	20.39	2.57	1.13	1.25	1.21
12000	10.17	10.11	10.19	10.13	10.09	10.05	0.06	30.52	28.63	28.78	31.19	2.74	1.32	1.31	1.21
14000	10.18	10.14	10.19	10.15	10.12	10.09	0.05	33.83	47.98	50.85	39.59	3.19	1.06	1.07	1.02
15000	10.26	10.21	10.27	10.28	10.19	10.17	0.05	23.27	30.25	30.64	24.36	3.48	1.12	1.13	1.13
16000	10.44	10.34	10.39	10.38	10.32	10.26	0.10	63.06	35.15	36.03	40.21	3.78	1.23	1.20	1.21
17000	10.47	10.38	10.46	10.42	10.33	10.25	0.08	23.35	34.30	33.94	23.19	3.99	1.28	1.12	1.07
18000	10.72	10.55	10.70	10.62	10.53	10.40	0.17	31.70	35.59	37.92	31.63	3.60	1.13	1.31	1.22

1. Total Loss = Insertion Loss + 9dB splitter loss.







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