DC Pass, High Power

Power Splitter/Combiner ZN2PD-183W-S+

2-Way 0° 50Ω 500 to 18000 MHz

The Big Deal

- Super wideband, 0.5 to 18 GHz
- Low insertion loss, 0.8 dB typ.
- High Isolation, 24 dB typ.
- 20 W power handling
- Low amplitude unbalance, 0.05 dB typ.



CASE STYLE: UU2624-5

Product Overview

Mini-Circuits' ZN2PD-183W-S+ is a super wideband 2-way 0° splitter/combiner providing coverage from 0.5 to 18 GHz, supporting a wide range of applications including L-Band, S-Band, C-Band, X-Band and many more. This model provides 20 W power handling as a splitter and very low insertion loss across the entire operating frequency range, minimizing power dissipation and delivering excellent signal power transmission from input to output. The ZN2PD-183W-S+ comes housed in a case measuring 4.75 × 1.00 × 0.5" with SMA connectors.

Key Features

Feature	Advantages
Ultra-wideband, 0.5 to 18 GHz	Extremely wide frequency range supports many broadband applications in a single model.
Low insertion loss, 0.8 dB typ. at 13 GHz	The combination of 20 W power handling and low insertion loss makes this model a suitable candidate for distributing signals while maintaining excellent transmission of signal power.
High isolation, 24 dB typ. at 13 GHz	Minimizes interference between ports.
High power handling: • 20 W as a splitter at +25 °C • 1.5 W as a combiner	The ZC2PD-183W-S+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.05 dB at 13 GHz	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 630 mA	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, High Power

Power Splitter/Combiner

ZN2PD-183W-S+

2-Way 0° 50Ω 500 to 18000 MHz



Generic photo used for illustration purposes only

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Connectors	Model
SMA-Fem	ZN2PD-183W-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)	20 W max.
Internal Dissipation	1.5 W max.
DC Current	630 mA

Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

Sum Port	S
Port 1	1
Port 2	2

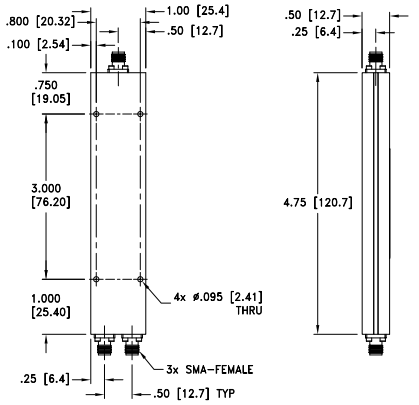
Features

- Super wideband, 500 - 18000 MHz
- Low insertion loss, 0.8 dB typ.
- Low amplitude unbalance, 0.05 dB typ.
- Excellent VSWR, 1.11:1 typ.
- High isolation, 24 dB typ.

Applications

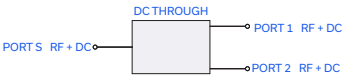
- Fixed satellite
- Mobile
- Space research

Outline Drawing



Weight: 105 grams
Dimensions are in inches (mm). Tolerances: 2 Pl.±.03; 3 Pl. ±.015

Electrical Schematic



Electrical Specifications at +25 °C

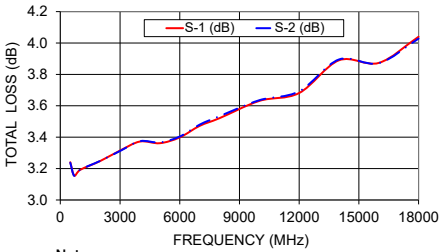
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		500		18000	MHz
Insertion Loss Above 3 dB	500-5000		0.3	1.0	dB
	5000-10000		0.5	1.2	
	10000-15000		0.8	1.6	
	10000-18000		1.0	1.9	
Amplitude Unbalance	500-5000		0.02	0.7	dB
	5000-10000		0.02	0.7	
	10000-15000		0.05	0.7	
	10000-18000		0.07	0.7	
Phase Unbalance	500-5000		0.3	6	Degree
	5000-10000		0.8	6	
	10000-15000		1.1	6	
	10000-18000		1.4	6	
Isolation	500-600	12.5	16		dB
	600-5000	14	24		
	5000-10000	14	24		
	10000-15000	14	24		
	10000-18000	14	26		
VSWR (Port S)	500-5000		1.14	1.8	:1
	5000-10000		1.11	1.8	
	10000-15000		1.12	1.8	
	10000-18000		1.10	1.8	
VSWR (Port 1-2)	500-5000		1.09	1.6	:1
	5000-10000		1.06	1.6	
	10000-15000		1.10	1.6	
	10000-18000		1.15	1.6	

Typical Performance Data

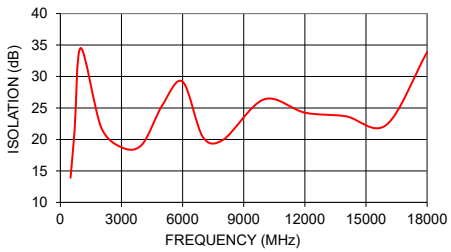
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
500	3.24	3.24	0.00	13.91	0.06	1.38	1.09	1.09
700	3.15	3.15	0.00	21.44	0.06	1.10	1.10	1.10
1000	3.19	3.19	0.00	34.53	0.09	1.17	1.13	1.14
2000	3.25	3.25	0.00	21.94	0.12	1.17	1.15	1.16
3000	3.31	3.31	0.00	18.75	0.24	1.22	1.10	1.09
4000	3.37	3.37	0.00	19.15	0.35	1.26	1.02	1.03
5000	3.36	3.37	0.00	25.41	0.35	1.10	1.01	1.01
6000	3.40	3.40	0.01	29.18	0.47	1.11	1.11	1.12
7000	3.47	3.48	0.01	20.35	0.53	1.16	1.11	1.12
8000	3.52	3.53	0.01	19.97	0.57	1.21	1.03	1.02
10000	3.63	3.64	0.00	26.37	0.68	1.02	1.05	1.05
12000	3.68	3.69	0.01	24.25	0.89	1.04	1.07	1.06
14000	3.89	3.90	0.01	23.69	0.86	1.34	1.20	1.13
16000	3.87	3.87	0.00	22.31	0.85	1.10	1.22	1.17
18000	4.04	4.03	0.01	33.88	0.93	1.25	1.26	1.23

1. Total Loss = Insertion Loss + 3 dB splitter theoretical loss.

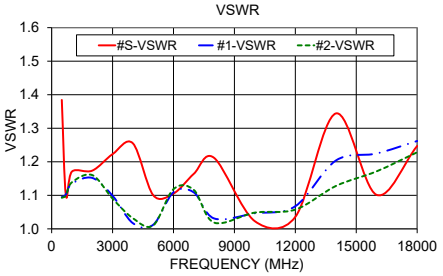
ZN2PD-183W-S+
TOTAL LOSS



ZN2PD-183W-S+
ISOLATION



ZN2PD-183W-S+
VSWR



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