DC Pass, High Power

Power Splitter/Combiner ZN2PD-83W-N+

2 Way-0° 50Ω 500 to 8000 MHz

The Big Deal

- Ultra-wideband, 0.5 to 8 GHz
- Low insertion loss, 0.5 dB typ.
- High Isolation, 22 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.04 dB typ.



CASE STYLE: UU2386-1

Product Overview

Mini-Circuits' ZN2PD-83W-N+ is a ultra wideband 2-way 0˚ splitter/combiner providing coverage from 0.5 to 8 GHz, supporting a wide range of applications including UHF-Band, L-Band, S-Band, C-Band, and many more. This model provides 20W 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-83W-N+ comes housed in a case measuring 4.75 x 1.96 x 0.75" with N-Type connectors.

Key Features

Feature	Advantages
Ultra-wideband, 0.5 to 8 GHz	Extremely wide frequency range supports many broadband applications in a single model.
Low insertion loss, 0.5 dB typ. at 6 GHz	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.
High isolation, 22 dB typ. at 6 GHz	Minimizes interference between ports.
High power handling: • 20W as a splitter at 25°C • 1.5W as a combiner	The ZN2PD-83W-N+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.04 dB at 6 GHz	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 630mA	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-83W-N+

2 Way-0° 50Ω 500 to 8000 MHz

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	1.5W 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 - 8000 MHz
- Low insertion loss, 0.5 dB typ.
- Low amplitude unbalance, 0.04 dB typ.
- Excellent VSWR, 1.16:1 typ.
- High isolation, 24 dB typ.

Applications

- Fixed satellite
- Mobile
- Space research



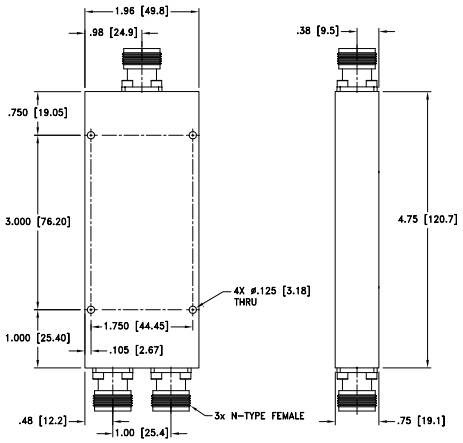
Generic photo used for illustration purposes only

CASE STYLE: UU2386-1

Connectors	Model
N-Type	ZN2PD-83W-N+

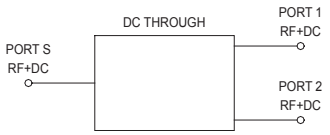
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Outline Drawing



Weight: 340 grams
Dimensions are in inches [mm]

Electrical Schematic



Electrical Specifications at 25°C

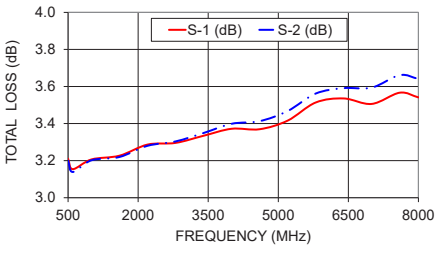
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		500		8000	MHz
Insertion Loss Above 3dB	500-4000		0.3	0.6	dB
	4000-8000		0.5	1.0	
Amplitude Unbalance	500-4000		**0.01**	0.1	dB
	4000-8000		**0.04**	0.4	
Phase Unbalance	500-4000		0.5	6.0	Degree
	4000-8000		1.3	6.0	
Isolation	500-600	12.5	16	—	dB
	600-4000	16	23	—	
	4000-8000	16	22	—	
VSWR(Port S)	500-4000		1.16	1.5	:1
	4000-8000		1.16	1.5	
VSWR(Port 1-2)	500-4000		1.13	1.5	
	4000-8000		1.11	1.5	

Typical Performance Data

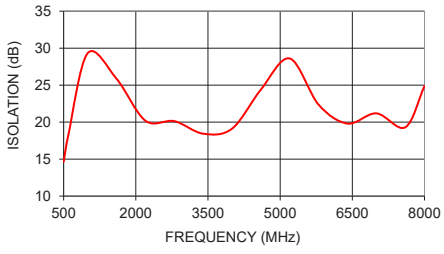
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
500	3.21	3.20	0.01	14.65	0.04	1.35	1.10	1.10
600	3.15	3.14	0.02	18.34	0.04	1.19	1.08	1.09
1000	3.21	3.20	0.00	29.33	0.14	1.23	1.15	1.15
1600	3.23	3.22	0.01	25.86	0.24	1.14	1.15	1.14
2200	3.29	3.28	0.01	20.19	0.35	1.19	1.13	1.12
2800	3.30	3.30	0.01	20.13	0.46	1.12	1.09	1.08
3400	3.33	3.35	0.01	18.44	0.52	1.14	1.12	1.12
4000	3.37	3.40	0.03	19.12	0.62	1.15	1.12	1.12
4600	3.37	3.41	0.04	24.40	0.69	1.05	1.08	1.08
5200	3.42	3.47	0.05	28.60	0.72	1.13	1.13	1.14
5800	3.51	3.56	0.05	22.36	0.74	1.24	1.16	1.15
6400	3.54	3.59	0.06	19.81	0.91	1.21	1.04	1.03
7000	3.51	3.59	0.09	21.19	0.95	1.13	1.11	1.12
7600	3.57	3.66	0.09	19.30	0.97	1.25	1.10	1.09
8000	3.54	3.64	0.10	24.87	1.08	1.15	1.20	1.17

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

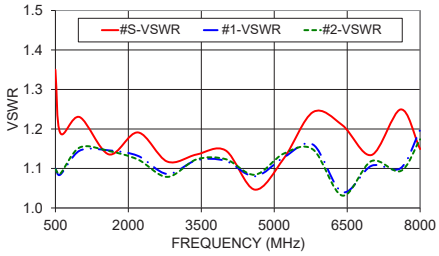
ZN2PD-83W-N+
TOTAL LOSS



ZN2PD-83W-N+
ISOLATION



ZN2PD-83W-N+
VSWR



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