



DC PASS, HIGH POWER

Power Splitter/Combiner ZN4PD-5R183-S+

Mini-Circuits

4 Way-0° 50Ω 500 to 18000 MHz

THE BIG DEAL

- Super wideband, 0.5 to 18 GHz
- High Isolation, 24 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.23 dB typ.

APPLICATIONS

- Fixed satellite
- Space research
- Mobile



Generic photo used for illustration purposes only

Model No.	ZN4PD-5R183-S+
Case Style	UU2625-1
Connectors	SMA

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

PRODUCT OVERVIEW

Mini-Circuits' ZN4PD-5R183-S+ is a super wideband 4-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, KU-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 ZN4PD-5R183-S+ comes housed in a case measuring 6.25 x 2.98 x 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.
High isolation, 24 dB typ. at 13 GHz	Minimizes interference between ports.
High power handling: • 20W as a splitter at 25°C • 4.5W as a combiner	The ZN4PD-5R183-S+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.23 dB typ. at 13 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.

REV. B
 ECO-013913
 ZN4PD-5R183-S+
 JG/CP/AM
 220725





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ELECTRICAL SPECIFICATIONS AT 25°C

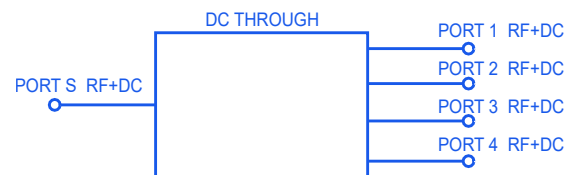
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		500		18000	MHz
Insertion Loss, above 6.0 dB	500-5000		0.5	1.2	dB
	5000-10000		1.2	1.9	
	10000-15000		1.9	2.9	
	15000-18000		2.4	3.5	
Isolation	500-600	12.5	15	—	dB
	600-5000	15	25	—	
	5000-10000	15	24	—	
	10000-15000	15	24	—	
	15000-18000	13	26	—	
Phase Unbalance	500-5000		0.50	3.7	Degree
	5000-10000		1.90	5.7	
	10000-15000		3.00	6.9	
	15000-18000		3.90	8.0	
Amplitude Unbalance	500-5000		0.02	0.2	dB
	5000-10000		0.10	0.6	
	10000-15000		0.23	1.0	
	15000-18000		0.38	1.2	
VSWR (Port S)	500-5000		1.14	1.8	:1
	5000-10000		1.14	1.8	
	10000-15000		1.14	1.8	
	15000-18000		1.18	1.8	
VSWR (Port 1-4)	500-5000		1.09	1.6	:1
	5000-10000		1.08	1.6	
	10000-15000		1.10	1.6	
	15000-18000		1.11	1.6	

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.
Internal Dissipation	4.5W max.
DC Pass	630 mA

*Derate linearly to 14W at 100°C
Permanent damage may occur if any of these limits are exceeded.

ELECTRICAL SCHEMATIC





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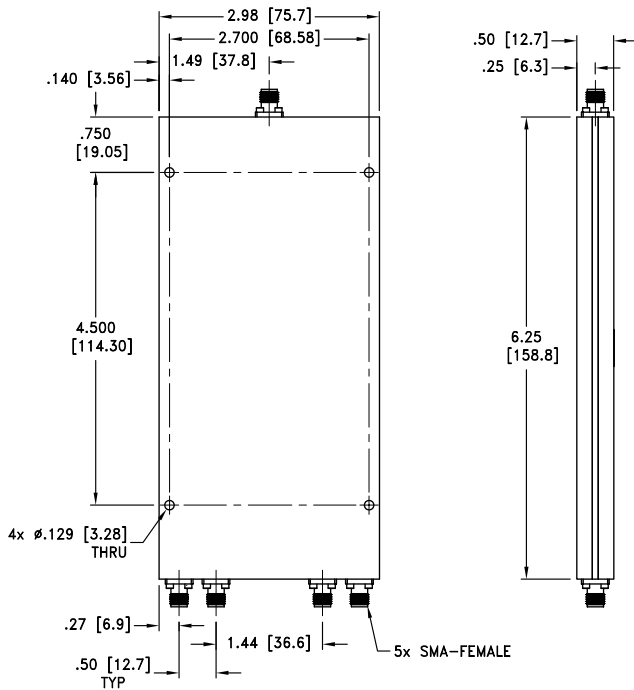
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COAXIAL CONNECTIONS

SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4

OUTLINE DRAWING



Weight: 340 grams

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



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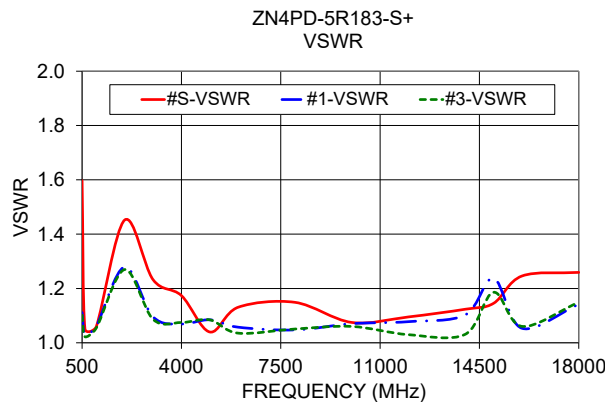
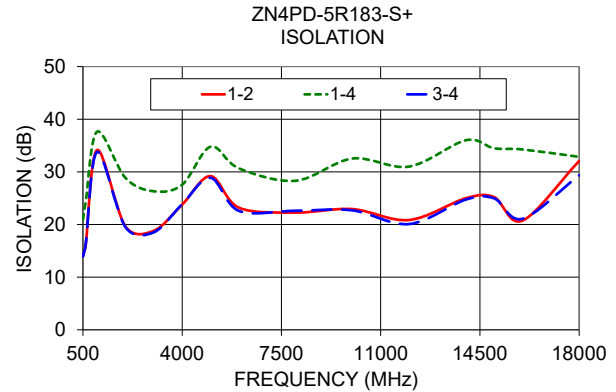
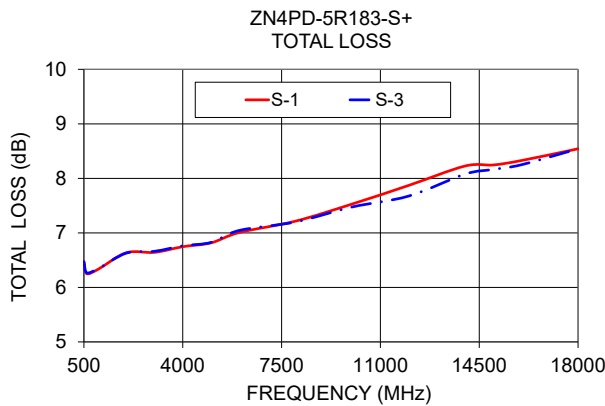
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TYPICAL PERFORMANCE DATA

Freq. (MHz)	Total Loss ¹ (dB)				Amp Unb. (dB)	Isolation (dB)			Phase Unb. (deg.)	VSWR (:1)				
	S-1	S-2	S-3	S-4		1-2	1-4	3-4		S	1	2	3	4
500	6.47	6.47	6.47	6.48	0.00	13.95	20.95	13.90	0.14	1.60	1.11	1.11	1.10	1.10
600	6.25	6.25	6.27	6.26	0.02	16.27	24.41	16.34	0.19	1.05	1.03	1.03	1.02	1.02
1000	6.33	6.33	6.34	6.34	0.01	34.16	37.64	33.79	0.35	1.06	1.06	1.06	1.05	1.05
2000	6.64	6.62	6.63	6.63	0.01	19.63	28.86	19.50	0.60	1.45	1.28	1.27	1.27	1.27
3000	6.64	6.66	6.66	6.65	0.02	18.81	26.32	18.53	0.73	1.23	1.10	1.10	1.09	1.10
4000	6.75	6.76	6.76	6.73	0.03	23.79	27.57	23.87	1.30	1.17	1.07	1.08	1.07	1.07
5000	6.82	6.80	6.82	6.80	0.03	29.19	34.78	28.87	1.40	1.04	1.08	1.07	1.08	1.08
6000	7.01	7.03	7.04	6.96	0.09	23.20	30.67	22.59	1.76	1.13	1.06	1.05	1.04	1.06
8000	7.22	7.14	7.20	7.17	0.08	22.27	28.31	22.62	3.04	1.15	1.05	1.05	1.05	1.05
10000	7.53	7.53	7.48	7.45	0.08	22.93	32.54	22.69	2.78	1.07	1.07	1.07	1.06	1.06
12000	7.87	7.71	7.68	7.78	0.20	20.86	31.00	20.09	3.61	1.10	1.08	1.07	1.03	1.10
14000	8.23	8.12	8.08	8.04	0.18	24.99	36.00	24.74	3.87	1.12	1.10	1.07	1.03	1.11
15000	8.25	8.14	8.16	8.01	0.24	25.21	34.48	24.97	4.92	1.15	1.24	1.23	1.19	1.28
16000	8.33	8.19	8.25	8.10	0.22	20.74	34.26	21.09	4.54	1.25	1.05	1.07	1.06	1.01
18000	8.54	8.51	8.54	8.36	0.18	32.08	32.85	29.35	4.95	1.26	1.14	1.14	1.15	1.16

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



- 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/terms/viewterm.html



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