

DC Pass, Ultra-Thin

Power Splitter/Combiner

ZN6PD1-63SMP+

6 Way-0° 50Ω 600 to 6000 MHz

The Big Deal

- Wideband, 600 to 6000 MHz
- Low insertion loss, 2.0 dB
- High-Power Handling, 20W as a splitter
- Ultra-thin case, 0.43" height (10.92mm)
- SMP snap-on connectors



CASE STYLE: UU2372

Product Overview

Mini-Circuits' ZN6PD1-63SMP+ is a 6-way 0° splitter/combiner supporting a wide variety of applications from 600 to 6000 MHz. This model is capable of handling up to 20W RF input power as a splitter and provides low insertion loss, high isolation. It comes housed in an ultra-thin, aluminum alloy case (9.50 x 4.25 x 0.43") with SMP snap-on connectors, saving space in crowded system layouts.

Key Features

Feature	Advantages
Wideband, 600 to 6000 MHz	ZN6PD1-63SMP+ supports bandwidth requirements for a wide variety of applications.
Ultra-thin case design, 9.50 x 4.25 x 0.43"	Saves space in crowded system layouts.
Blind mate, snap-on SMP connectors	Blind mate SMP connectors enable direct connection to adjacent modules while facilitating thin case height.
High power handling: <ul style="list-style-type: none">• 20W as a splitter• 1.5W as a combiner	Suitable for a variety of system power requirements.
Low insertion loss, 2.0 dB	Provides good signal power transmission, making this model ideal for signal distribution applications where low loss is a requirement.
DC Passing, 0.6A (100mA each port)	Supports applications where DC power is needed at later stages in the system.

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



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ZN6PD1-63SMP+

6 Way-0° 50Ω 600 to 6000 MHz

Maximum Ratings

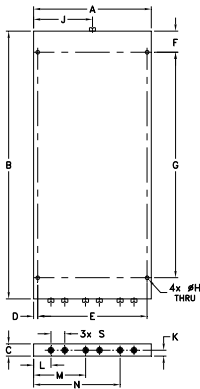
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W max.
Internal Dissipation	2.25W max.
DC Current	0.6A(100mA for each port)

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

Coaxial Connections

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

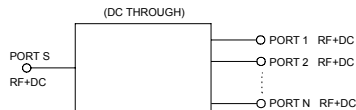
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
4.25	9.50	.43	.15	3.95	.75	8.000	.136
107.95	241.30	10.92	3.81	100.33	19.05	203.20	3.45
J	K	L	M	N	S	wt	
2.13	.205	.63	1.88	3.13	0.5	grams	
54.10	5.21	16.00	47.75	79.50	12.70	580	

Electrical Schematic



Features

- wideband, 600 to 6000 MHz
- snap-on blind mate SMP connectors
- low insertion loss, 2.0 dB typ.
- good isolation, 20 dB typ.
- rugged, shielded case
- up to 20W power input as splitter

Applications

- high band PCS
- UNII
- WiMAX
- WiFi



CASE STYLE: UU2372

Connectors	Model
SMP(Snap-on)	ZN6PD1-63SMP+

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

Electrical Specifications at 25°C

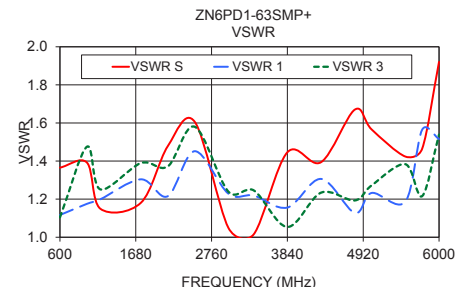
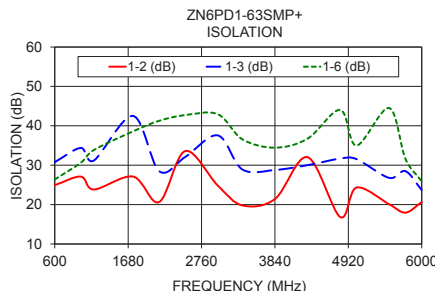
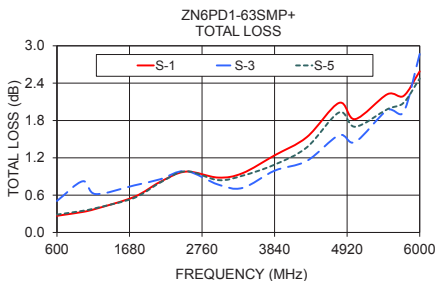
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		600		6000	MHz
Insertion Loss (above theoretical 7.8 dB)	600 - 3000 3000 - 6000	—	1.0 2.5	1.6 3.5	dB
Isolation	600 - 6000	14	20	—	dB
Phase Unbalance	600 - 3000 3000 - 6000	—	8 10	12 18	Degree
Amplitude Unbalance	600 - 3000 3000 - 6000	—	0.6 0.8	0.8 1.4	dB
VSWR (Port S)	600 - 6000	—	1.5	—	:1
VSWR (Port 1-6)	600 - 6000	—	1.4	—	:1
Power Handling¹	as splitter			20	W
	as combiner ²			1.5	

1. Over 25°C to 100°C. Derate linearly to 50% of rating at 100°C.
2. As a combiner of non-coherent signals max power per port is 1.5Watt power rating divided by number of ports.

Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)			Amplitude Unbalance (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 3
	S-1	S-3	S-5		1-2	1-3	1-6				
600.00	0.27	0.51	0.29	0.25	24.93	30.78	26.37	0.86	1.37	1.12	1.10
984.00	0.33	0.82	0.35	0.52	27.10	34.38	30.63	2.64	1.39	1.18	1.48
1176.00	0.38	0.62	0.39	0.24	23.83	31.20	33.86	3.55	1.15	1.20	1.25
1752.00	0.57	0.76	0.56	0.25	27.11	42.50	38.59	5.40	1.18	1.30	1.39
2136.00	0.81	0.86	0.80	0.08	20.64	28.50	41.26	3.86	1.48	1.22	1.37
2520.00	0.98	0.99	0.98	0.10	33.59	32.09	42.71	5.66	1.61	1.45	1.58
3000.00	0.88	0.77	0.84	0.11	24.81	37.56	42.93	4.96	1.05	1.23	1.24
3360.00	0.95	0.72	0.91	0.24	19.79	28.92	36.58	4.87	1.02	1.22	1.25
3840.00	1.24	0.99	1.09	0.25	21.41	28.78	34.45	5.34	1.45	1.16	1.05
4320.00	1.53	1.15	1.37	0.39	32.03	30.01	36.73	5.49	1.39	1.31	1.23
4800.00	2.08	1.56	1.93	0.53	16.84	31.67	44.03	5.32	1.67	1.13	1.19
5040.00	1.82	1.45	1.70	0.37	24.33	31.54	34.99	6.97	1.57	1.23	1.27
5520.00	2.22	1.97	1.98	0.35	20.09	26.78	44.51	7.25	1.42	1.19	1.38
5760.00	2.19	1.93	2.08	0.30	17.96	28.48	31.61	7.77	1.46	1.56	1.22
6000.00	2.59	2.87	2.47	0.39	20.63	23.69	25.90	8.92	1.92	1.52	1.54

1. Total Loss = Insertion Loss + 7.8dB theoretical splitter loss.



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