

DC Pass

# Power Splitter/Combiner

ZN6PD1-63-S+

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



CASE STYLE: UU2372-1

## Product Overview

Mini-Circuits' ZN6PD1-63-S+ 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. This model covers all cellular bands including LTE through WiFi in a single unit.

## Key Features

Feature	Advantages
Wideband, 600 to 6000 MHz	ZN6PD1-63-S+ supports bandwidth requirements for a wide variety of applications.
High power handling: <ul style="list-style-type: none"><li>• 20W as a splitter</li><li>• 1.5W as a combiner</li></ul>	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](http://www.minicircuits.com/MCLStore/terms.jsp)



# Power Splitter/Combiner

## ZN6PD1-63-S+

6 Way-0° 50Ω 600 to 6000 MHz

### Maximum Ratings

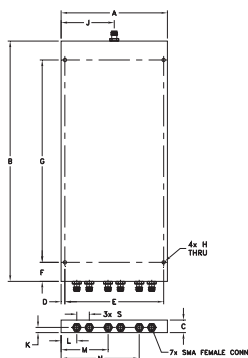
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W max.
Internal Dissipation	2.25W max.
DC Current	0.6A(100mA for each port)

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

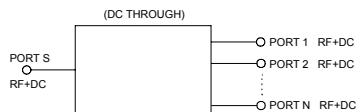
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
4.25	9.50	.50	.15	3.95	.75	8.00	.136	2.13
107.95	241.30	12.70	3.81	100.33	19.05	203.20	3.45	54.10
K	L	M	N	P	Q	R	S	wt
.205	.63	1.88	3.13	-	-	-	0.5	grams
5.21	16.00	47.75	79.50	-	-	-	12.70	600

### Electrical Schematic



### Features

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

### Applications

- UNII
- all cellular bands including LTE
- WiFi
- bluetooth



CASE STYLE: UU2372-1

Connectors	Model
SMA	ZN6PD1-63-S+

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

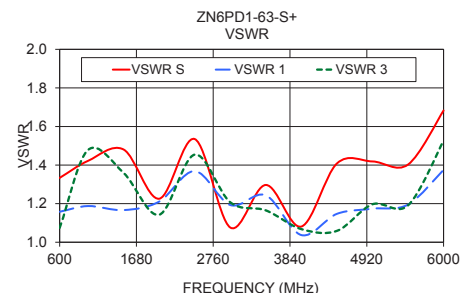
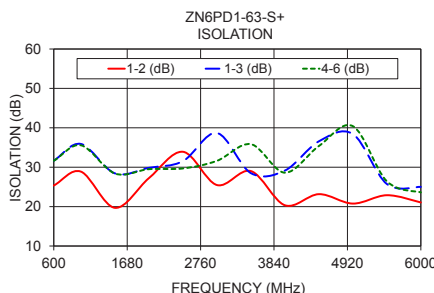
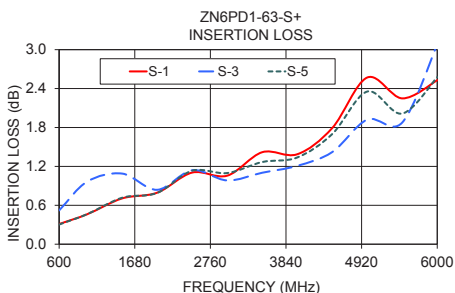
### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency Range</b>		600		6000	MHz
<b>Insertion Loss</b> (above theoretical 7.8 dB)	600 - 3000 3000 - 6000	—	1.0 2.5	1.6 3.5	dB
<b>Isolation</b>	600 - 6000	14	20	—	dB
<b>Phase Unbalance</b>	600 - 3000 3000 - 6000	—	8 10	12 18	Degree
<b>Amplitude Unbalance</b>	600 - 3000 3000 - 6000	—	0.5 0.8	0.8 1.4	dB
<b>VSWR (Port S)</b>	600 - 6000	—	1.5	—	:1
<b>VSWR (Port 1-6)</b>	600 - 6000	—	1.4	—	:1
<b>Power Handling<sup>1</sup></b>	as splitter			20	W
	as combiner <sup>2</sup>			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)	Insertion Loss (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	4-6				
600	0.31	0.52	0.30	0.23	25.36	31.66	31.64	0.73	1.33	1.16	1.07
1000	0.46	0.96	0.46	0.51	28.88	35.90	35.57	2.84	1.42	1.19	1.48
1500	0.71	1.09	0.72	0.39	19.69	28.44	28.40	3.32	1.48	1.17	1.36
2000	0.79	0.84	0.79	0.09	27.24	29.84	29.51	4.35	1.23	1.21	1.14
2500	1.10	1.14	1.13	0.06	33.92	31.53	29.69	5.98	1.53	1.37	1.45
3000	1.06	0.98	1.10	0.12	25.48	38.69	31.62	5.87	1.08	1.19	1.21
3500	1.42	1.10	1.27	0.32	29.02	28.50	35.85	5.86	1.30	1.24	1.17
4000	1.39	1.21	1.34	0.25	20.34	29.15	28.61	6.39	1.08	1.04	1.07
4500	1.79	1.42	1.70	0.46	23.16	36.57	35.38	6.02	1.41	1.15	1.06
5000	2.57	1.92	2.35	0.65	20.77	38.42	40.42	5.93	1.42	1.17	1.20
5500	2.25	1.88	2.01	0.41	22.89	25.74	26.43	4.87	1.40	1.20	1.19
6000	2.53	3.08	2.58	0.55	21.06	25.01	23.62	7.59	1.68	1.38	1.53



**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/WCLStore/terms.jsp](http://www.minicircuits.com/WCLStore/terms.jsp)

