

DC Pass, Ultra-Thin

# Power Splitter/Combiner

**ZN12PD-63SMP+**

12 Way-0° 50Ω 600 to 6000 MHz 20Watt

## The Big Deal

- Wideband, 600 - 6000 MHz
- High power, 20W as a splitter
- Good isolation, 19 dB
- Ultra-slim case, 8.5 x 9.5 x 0.43"
- SMP snap-on connectors



## Product Overview

Mini-Circuits' ZN12PD-63SMP+ is a connectorized, wideband 12-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 and good isolation. It comes housed in an ultra-slim aluminum alloy case (8.5 x 9.5 x 0.43") with SMP snap-on connectors, saving space in crowded system layouts.

## Key Features

Feature	Advantages
Wideband, 600 to 6000 MHz	ZN12PD-63SMP+ supports bandwidth requirements for a wide variety of applications.
Power handling up to 20W as a splitter (1.5W as a combiner)	Supports a wide range of power requirements.
Low insertion loss, 1.4 – 3.0 dB	Provides good transmission of signal power, making this model an excellent candidate for signal distribution applications where low loss is a requirement.
DC passing up to 1.2A (100 mA each port)	Supports applications where DC power is needed through the RF line.
High isolation, 19 dB	Minimizes interference between input ports.
Ultra-slim case design, 8.5 x 9.5 x 0.43"	Saves space in crowded system layouts.

### 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

12 Way-0° 50Ω 600 to 6000 MHz 20Watt

## ZN12PD-63SMP+

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	1.2 A (100mA for each port)
Permanent damage may occur if any of these limits are exceeded.	

### Coaxial Connections

SUM PORT	S(COM)
PORT 1,2,3,.....,12	1,2,3,.....,12

### Features

- Ultra-thin package
- Snap-on blind mate SMP connectors
- Wideband 600 to 6000 MHz
- High isolation, 19 dB typ.
- Good output VSWR, 1.4:1 typ.
- Good amplitude unbalance, 0.7 dB typ.

### Applications

- Instrumentation
- PCS/DCS/UMTS
- Cellular/ISM/SMG/GSM
- MMDC
- SATCOM



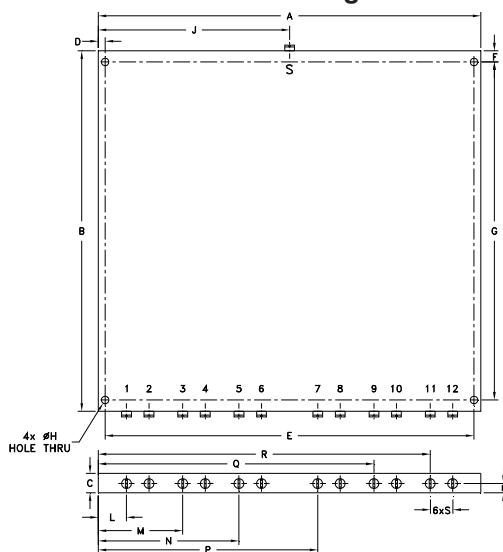
CASE STYLE: UU2061

Connectors	Model
SMP(Snap-on)	ZN12PD-63SMP+

### +RoHS Compliant

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

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
8.50	9.50	.43	.15	8.20	.75	8.00	0.136	4.25
215.90	241.30	10.92	3.81	208.28	19.05	203.2	3.454	107.95
K	L	M	N	P	Q	R	S	wt
0.205	0.63	1.88	3.13	4.88	6.13	7.38	0.500	grams
5.207	16.002	47.752	79.502	123.95	155.7	187.45	12.7	1.150

### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		600		6000	MHz
Insertion Loss Above 10.8 dB	600 - 3000	—	1.4	2.4	dB
	3000 - 6000	—	3.0	4.5	
Isolation	600 - 3000	14	20	—	dB
	3000 - 6000	13	18	—	
Phase Unbalance	600 - 3000	—	8.0	—	Degree
	3000 - 6000	—	10.0	—	
Amplitude Unbalance	600 - 3000	—	0.4	0.9	dB
	3000 - 6000	—	0.8	1.5	
VSWR (Port S)	600 - 6000	—	1.5	2.4	:1
VSWR (Port 1-2)	600 - 3000	—	1.3	1.8	:1
	3000 - 6000	—	1.4	1.9	
Power Handling <sup>1</sup>	As Splitter	600 - 6000	—	20	Watt
	As Combiner <sup>2</sup>	600 - 6000		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 1.5 watt power rating divided by number of ports.

### Electrical Schematic



### Notes

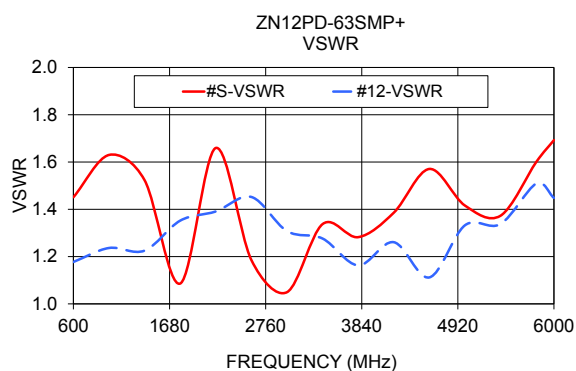
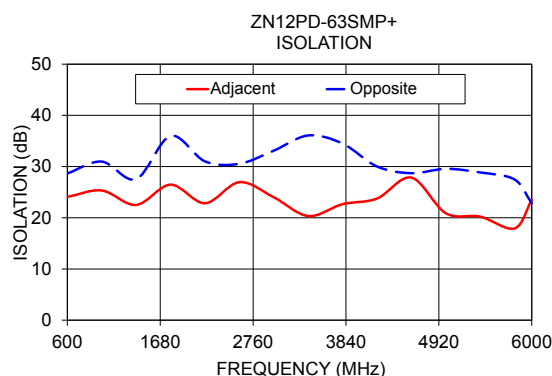
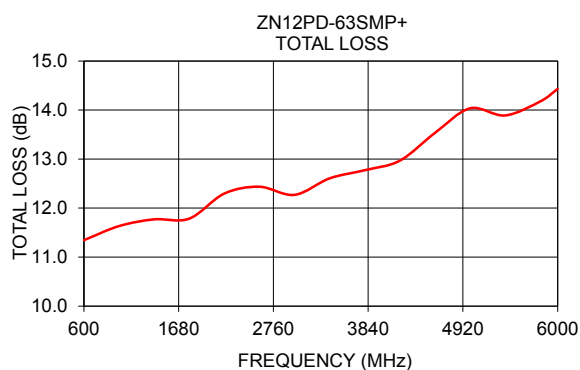
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.  
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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)



## Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)	Amplitude Unbalance (dB)	Isolation (dB)		Phase Unbalance (deg.)	VSWR S	VSWR 12
			Adjacent	Opposite			
600.00	11.35	0.23	24.07	28.65	1.68	1.45	1.18
1000.00	11.63	0.51	25.33	30.97	3.88	1.63	1.24
1400.00	11.77	0.22	22.50	27.54	4.58	1.52	1.23
1800.00	11.78	0.15	26.47	35.98	6.92	1.09	1.35
2200.00	12.30	0.11	22.83	31.02	6.32	1.66	1.39
2600.00	12.44	0.32	26.96	30.54	9.11	1.19	1.45
3000.00	12.27	0.29	24.00	33.10	8.29	1.05	1.31
3400.00	12.61	0.45	20.34	36.07	8.19	1.34	1.28
3800.00	12.77	0.44	22.65	34.49	8.64	1.28	1.16
4200.00	12.97	0.63	23.75	30.02	9.54	1.39	1.26
4600.00	13.53	0.79	27.84	28.70	8.80	1.57	1.11
5000.00	14.03	1.22	20.89	29.55	11.07	1.42	1.33
5400.00	13.89	1.24	20.22	28.85	8.08	1.37	1.34
5800.00	14.17	0.82	17.93	27.47	12.45	1.60	1.51
6000.00	14.43	0.86	23.51	22.82	12.23	1.69	1.45

1. Total Loss = Insertion Loss + 10.8dB splitter loss.



### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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)

