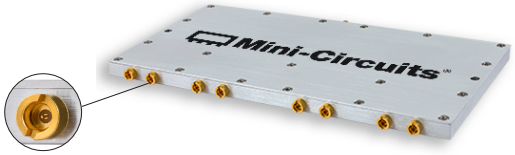
DC Pass, Ultra-Thin

Power Splitter/Combiner ZN8PD-272SMP+

8 Way-0° 50Ω 690 to 2750 MHz

The Big Deal

- Wideband, 690 to 2750 MHz
- Low insertion loss, 0.8 dB
- High-Power Handling, 10W as a splitter
- Ultra-thin case, 0.3” height (7.92mm)
- SMP snap-on connectors



CASE STYLE: UU2046

Product Overview

Mini-Circuits’ ZN8PD-272SMP+ is an 8-way 0˚ splitter/combiner supporting a wide variety of applications from 690 to 2750 MHz. This model is capable of handling up to 10W RF input power as a splitter and provides low insertion loss, high isolation, low amplitude unbalance, and low phase unbalance. It comes housed in an ultra-thin, aluminum alloy case (6.60 x 3.26 x 0.30”) with SMP snap-on connectors, saving space in crowded system layouts.

Key Features

Feature	Advantages
Wideband, 690 to 2750 MHz	ZN8PD-272SMP+ supports bandwidth requirements for a wide variety of applications.
Ultra-thin case design, 6.60 x 3.26 x 0.30”	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: • 10W as a splitter • 6W as a combiner	Suitable for a variety of system power requirements.
Low insertion loss, 0.8 dB	Provides excellent signal power transmission, making this model ideal for signal distribution applications where low loss is a requirement.
Low unbalance: • 0.1 dB amplitude unbalance • 2.0˚ phase unbalance	Produces nearly equal output signals, ideal for parallel path / multichannel systems.
DC Passing, 1400mA (175mA each port)	Supports applications where DC power is needed at later stages in the system.

Notes
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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, Ultra-Thin

Power Splitter/Combiner

ZN8PD-272SMP+

8 Way-0° 50Ω 690 to 2750 MHz



CASE STYLE: UU2046

Connectors	Model
SMP (Snap-on)	ZN8PD-272SMP+

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

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
DC Current	1400 mA (175mA for each port)

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

Coaxial Connections

SUM PORT	S
PORT 1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8

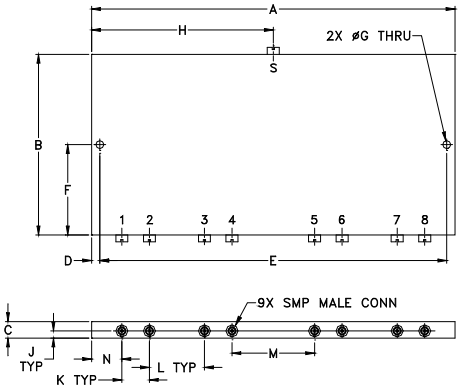
Features

- Ultra-thin package
- Snap-on blind mate SMP connectors
- Wideband, 690-2750 MHz
- Excellent amplitude unbalance, 0.1 dB typ.
- Excellent phase unbalance, 2 deg. typ.
- Up to 10W power input as splitter
- High Isolation, 23 dB typ.

Applications

- Dense Packaging Environment
- Automated Test Systems
- Cellular/ISM/SMG/GSM
- Satellite Distribution
- GPS/L BAND (MARSAT)
- CATV

Outline Drawing

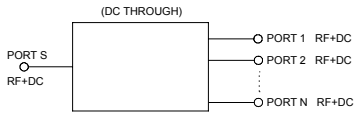


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
6.60	3.28	.30	.150	6.300	1.64	0.144	3.30
167.64	83.312	7.62	3.81	160.02	41.656	3.66	83.82

J	K	L	M	N	P	wt
.13	.500	1.000	1.500	.550	--	grams
3.30	12.70	25.40	38.10	13.97	--	190

Electrical Schematic



Electrical Specifications at 25°C

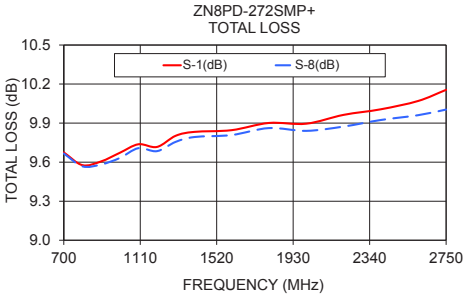
Parameter		Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range			690		2750	MHz
Insertion Loss Above 9.0 dB		690 - 2750	—	0.8	1.6	dB
Isolation		690 - 2750	20	23	—	dB
Phase Unbalance		690 - 2750	—	2.0	8.0	Degree
Amplitude Unbalance		690 - 2750	—	0.1	0.4	dB
VSWR (Port S)		690 - 2750	—	1.25	1.65	:1
VSWR (Port 1-8)		690 - 2750	—	1.15	1.35	:1
Power Handling	As Splitter[1]	690 - 2750	—	—	10	Watt
	As Combiner[2]	690 - 2750	—	—	6	

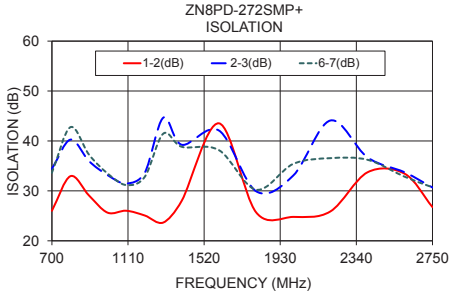
1. All outputs must terminate 50 ohm (VSWR 1.5:1 or better)
2. As a combiner of non-coherent signals, max. power per port is 6.0 watt power rating divided by number of ports.

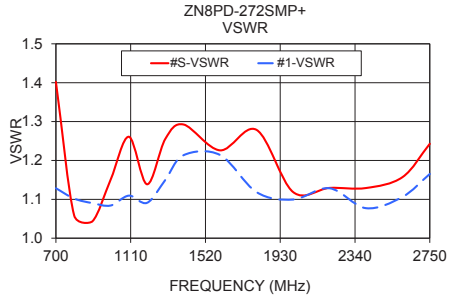
Typical Performance Data

Freq. (MHz)	Total Loss[1] (dB)						Amp. Unb. (dB)	Isolation (dB)				Phase Unb. (deg.)	VSWR S	VSWR 1	VSWR 8
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-3	3-4	6-7				
700	9.68	9.68	9.68	9.67	9.57	9.67	0.11	26.01	34.40	26.26	33.62	0.88	1.40	1.13	1.11
800	9.58	9.58	9.59	9.58	9.48	9.57	0.11	32.94	40.26	33.33	42.76	1.05	1.06	1.10	1.09
900	9.61	9.60	9.62	9.61	9.50	9.58	0.12	29.07	35.95	29.61	37.24	1.10	1.04	1.09	1.07
1000	9.67	9.67	9.69	9.67	9.55	9.63	0.15	25.63	33.16	26.23	33.48	1.33	1.15	1.08	1.06
1100	9.74	9.73	9.75	9.74	9.63	9.71	0.13	26.02	31.47	26.68	31.17	1.50	1.26	1.11	1.08
1200	9.72	9.71	9.73	9.72	9.62	9.68	0.12	25.07	33.61	25.27	32.80	1.49	1.14	1.09	1.06
1300	9.80	9.80	9.81	9.80	9.69	9.76	0.13	23.65	44.65	23.80	41.46	1.62	1.26	1.15	1.10
1400	9.83	9.83	9.84	9.83	9.73	9.79	0.12	28.05	39.23	28.46	38.82	1.78	1.29	1.21	1.17
1600	9.85	9.86	9.87	9.85	9.74	9.81	0.13	43.53	42.08	47.73	38.15	1.87	1.23	1.21	1.19
1800	9.90	9.93	9.95	9.91	9.80	9.86	0.15	25.70	29.92	26.24	30.23	2.10	1.28	1.12	1.14
2000	9.90	9.93	9.94	9.90	9.79	9.84	0.15	24.78	33.07	24.90	35.40	2.56	1.12	1.10	1.11
2200	9.96	9.99	9.99	9.95	9.84	9.87	0.15	25.88	44.09	26.12	36.55	2.57	1.13	1.13	1.12
2400	10.01	10.03	10.05	10.00	9.89	9.92	0.16	33.71	36.71	30.81	36.22	3.01	1.13	1.08	1.08
2600	10.07	10.08	10.12	10.06	9.94	9.96	0.19	33.43	33.72	34.05	32.83	3.03	1.16	1.11	1.12
2750	10.16	10.16	10.22	10.13	9.98	10.00	0.24	26.75	30.67	27.23	30.71	3.36	1.24	1.17	1.15

1. Total Loss = Insertion Loss + 9dB splitter loss.







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8 Way-0° Power Splitter/Combiner ZN8PD-272SMP+

Typical Performance Data

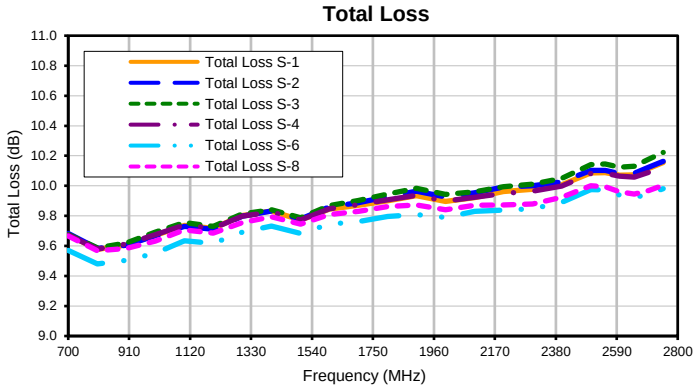
FREQ. (MHz)	TOTAL LOSS[1] (dB)						AMP. UNBAL. (dB)	ISOLATION (dB)				PHASE UNBAL. (deg.)
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-3	3-4	6-7	
700	9.68	9.68	9.68	9.67	9.57	9.67	0.11	26.01	34.40	26.26	33.62	0.88
800	9.58	9.58	9.59	9.58	9.48	9.57	0.11	32.94	40.26	33.33	42.76	1.05
900	9.61	9.60	9.62	9.61	9.50	9.58	0.12	29.07	35.95	29.61	37.24	1.10
1000	9.67	9.67	9.69	9.67	9.55	9.63	0.15	25.63	33.16	26.23	33.48	1.33
1100	9.74	9.73	9.75	9.74	9.63	9.71	0.13	26.02	31.47	26.68	31.17	1.50
1200	9.72	9.71	9.73	9.72	9.62	9.68	0.12	25.07	33.61	25.27	32.80	1.49
1300	9.80	9.80	9.81	9.80	9.69	9.76	0.13	23.65	44.65	23.80	41.46	1.62
1400	9.83	9.83	9.84	9.83	9.73	9.79	0.12	28.05	39.23	28.46	38.82	1.78
1500	9.77	9.78	9.79	9.77	9.68	9.74	0.11	38.56	37.69	37.64	36.46	1.82
1600	9.85	9.86	9.87	9.85	9.74	9.81	0.13	43.53	42.08	47.73	38.15	1.87
1700	9.87	9.89	9.90	9.87	9.76	9.83	0.14	28.31	33.27	28.89	32.82	2.03
1800	9.90	9.93	9.95	9.91	9.80	9.86	0.15	25.70	29.92	26.24	30.23	2.10
1900	9.93	9.96	9.98	9.94	9.81	9.87	0.17	26.53	30.42	27.00	31.57	2.29
2000	9.90	9.93	9.94	9.90	9.79	9.84	0.15	24.78	33.07	24.90	35.40	2.56
2100	9.92	9.95	9.96	9.92	9.83	9.87	0.13	24.27	36.60	24.40	36.21	2.52
2200	9.96	9.99	9.99	9.95	9.84	9.87	0.15	25.88	44.09	26.12	36.55	2.57
2300	9.98	10.00	10.01	9.96	9.85	9.88	0.16	31.77	39.99	31.47	36.93	2.89
2400	10.01	10.03	10.05	10.00	9.89	9.92	0.16	33.71	36.71	30.81	36.22	3.01
2500	10.09	10.10	10.14	10.08	9.97	10.00	0.17	31.91	40.91	30.84	37.45	3.02
2550	10.09	10.10	10.15	10.08	9.97	9.99	0.17	32.52	38.19	32.55	35.66	3.02
2600	10.07	10.08	10.12	10.06	9.94	9.96	0.19	33.43	33.72	34.05	32.83	3.03
2650	10.07	10.08	10.13	10.06	9.92	9.95	0.21	35.53	31.04	35.88	30.86	3.07
2700	10.12	10.12	10.18	10.09	9.95	9.97	0.23	33.19	30.02	33.67	30.10	3.17
2750	10.16	10.16	10.22	10.13	9.98	10.00	0.24	26.75	30.67	27.23	30.71	3.36

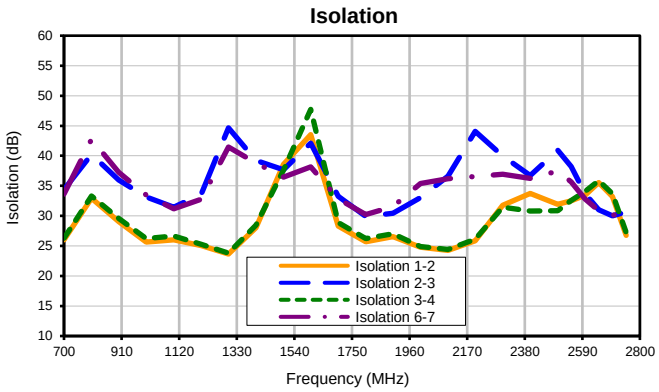
FREQ. (MHz)	VSWR (:1)		
	S	1	8
700	1.40	1.13	1.11
800	1.06	1.10	1.09
900	1.04	1.09	1.07
1000	1.15	1.08	1.06
1100	1.26	1.11	1.08
1200	1.14	1.09	1.06
1300	1.26	1.15	1.10
1400	1.29	1.21	1.17
1500	1.07	1.19	1.17
1600	1.23	1.21	1.19
1700	1.25	1.17	1.17
1800	1.28	1.12	1.14
1900	1.28	1.14	1.15
2000	1.12	1.10	1.11
2100	1.14	1.10	1.11
2200	1.13	1.13	1.12
2300	1.06	1.13	1.11
2400	1.13	1.08	1.08
2500	1.29	1.13	1.14
2550	1.26	1.13	1.15
2600	1.16	1.11	1.12
2650	1.07	1.11	1.10
2700	1.16	1.14	1.11
2750	1.24	1.17	1.15

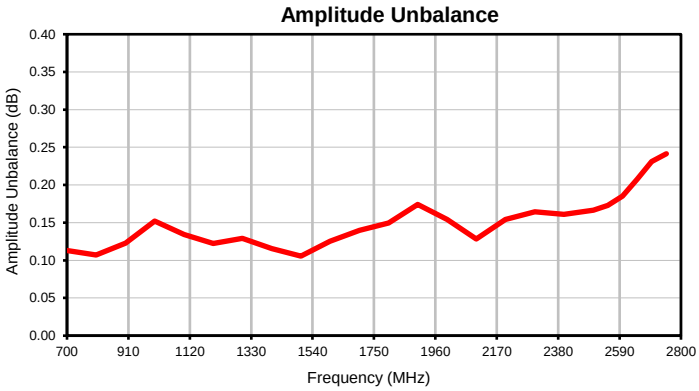
[1]Total Loss = Insertion Loss + 9dB Splitter Loss

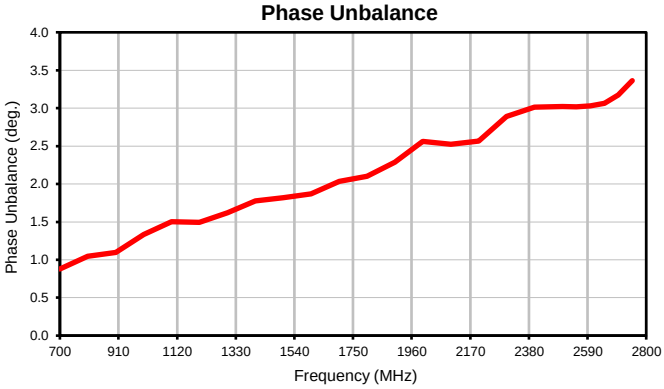
8 Way-0° Power Splitter/Combiner ZN8PD-272SMP+

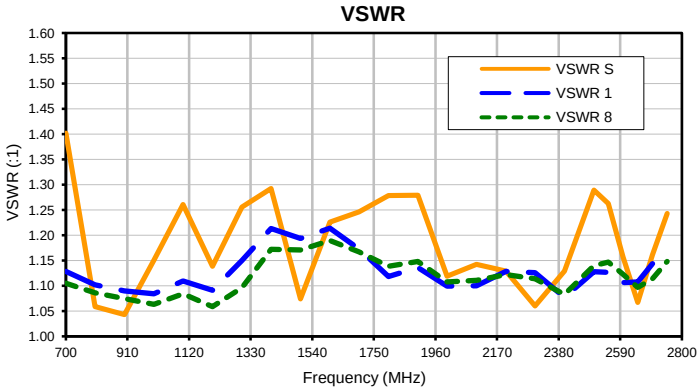
Typical Performance Curves







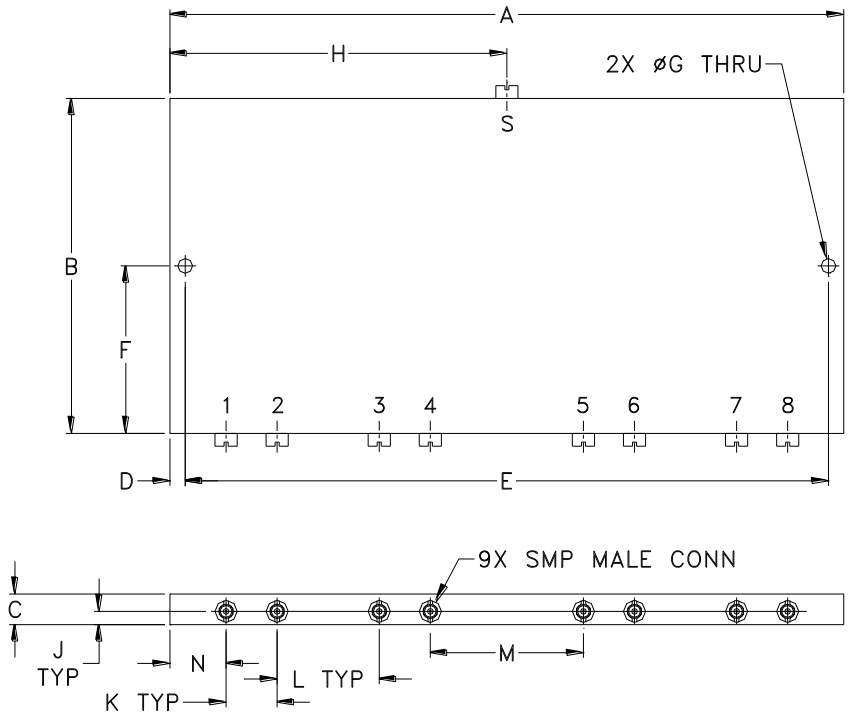




Case Style UU

Outline Dimensions

UU2046



CASE#	A	B	C	D	E	F	G	H	J	K	L
UU2046	6.60 (167.64)	3.28 (83.31)	.30 (7.62)	.150 (3.81)	6.300 (160.02)	1.64 (41.66)	.144 (3.66)	3.30 (83.82)	.13 (3.30)	.500 (12.70)	1.000 (25.40)

CASE#	M	N	P	WT, GRAMS
UU2046	1.500 (38.10)	.550 (13.97)	-- --	190

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Refer to the individual model data sheet for the type of connectors available.

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Mini-Circuits

Environmental Specifications ENV28

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I

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