DC Pass

Power Splitter/Combiner

ZN8PD1-53-S+

8 Way-0° 50Ω 500 to 5000 MHz

HT-Series Tight Spot SMA Wrench

Generic photo used for illustration purposes only

CASE STYLE: JN1359

Connectors	Model
SMA	ZN8PD1-53-S+

+RoHS Compliant

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

Maximum Ratings

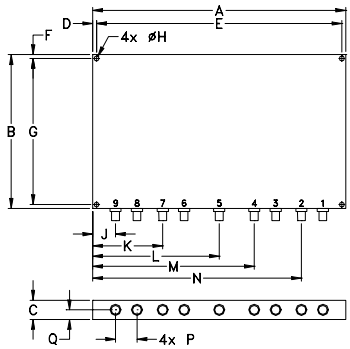
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	1.5W max.
DC Current	1.6A(200mA for each port)

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

Coaxial Connections

SUM PORT	5
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4
PORT 5	6
PORT 6	7
PORT 7	8
PORT 8	9

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H
8.25	5.00	.63	.13	8.000	.13	4.750	.156
209.55	127.00	16.00	3.30	203.20	3.30	120.65	3.96

J	K	L	M	N	P	Q	wt
.74	2.28	4.13	5.27	6.81	.70	.31	grams
18.80	57.91	104.90	133.86	172.97	17.78	7.87	720

Features

- wideband, 500 to 5000 MHz
- high isolation, 20 dB typ.
- good input matching VSWR, 1.3:1 typ.
- good output matching VSWR, 1.2:1 typ.
- up to 10W power input as splitter

Applications

- UHF TV
- cellular/ISM/GSM
- satellite distribution
- GPS/L-BAND (MARSAT)
- PCS/DCS/UMTS
- ISM
- MMDS
- SATCOM
- WiMax

Electrical Specifications

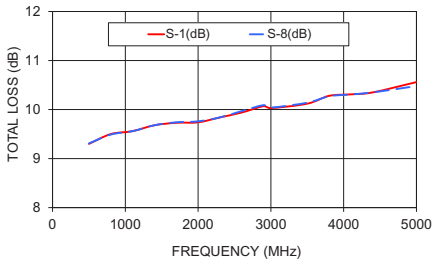
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 9.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)	
							S	OUT
f_L-f_U	Typ.	Min.	Typ.	Max.	Max.	Max.	Typ.	Typ.
500-5000	20	17	1.5	2.0	14	0.5	1.3	1.2

Typical Performance Data

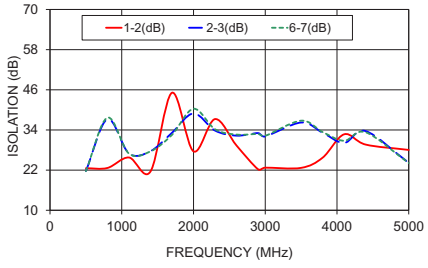
Freq. (MHz)	Total Loss[1] (dB)						Amplitude Unbalance (dB)	Isolation (dB)				Phase Unbalance (deg.)	S	VSWR 1	8
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-3	3-4	6-7				
500.00	9.30	9.29	9.30	9.29	9.30	9.31	0.03	22.56	21.73	22.47	21.69	0.80	1.15	1.05	1.05
800.00	9.50	9.50	9.51	9.51	9.51	9.49	0.02	22.64	37.22	23.18	37.67	1.27	1.29	1.09	1.09
1100.00	9.56	9.56	9.61	9.60	9.61	9.56	0.05	25.77	27.00	24.91	26.95	1.63	1.24	1.11	1.11
1400.00	9.68	9.69	9.67	9.66	9.66	9.68	0.06	21.57	27.65	22.52	27.60	1.96	1.33	1.15	1.15
1700.00	9.73	9.75	9.75	9.72	9.75	9.74	0.05	45.12	33.15	33.94	32.54	2.06	1.28	1.05	1.06
2000.00	9.74	9.75	9.76	9.73	9.76	9.76	0.04	27.61	38.94	26.96	40.33	3.01	1.06	1.10	1.11
2300.00	9.84	9.85	9.91	9.89	9.90	9.84	0.09	37.25	33.82	27.17	34.21	3.29	1.19	1.12	1.11
2600.00	9.94	9.94	9.92	9.89	9.92	9.97	0.08	29.34	32.30	31.94	32.62	3.43	1.17	1.21	1.22
2900.00	10.07	10.05	10.14	10.10	10.13	10.09	0.09	22.25	33.06	20.62	32.79	3.49	1.43	1.09	1.11
3000.00	10.03	10.02	10.07	10.04	10.06	10.04	0.05	22.73	32.06	22.17	32.25	4.17	1.26	1.16	1.18
3500.00	10.12	10.10	10.09	10.07	10.08	10.14	0.08	22.67	36.22	23.83	36.77	4.48	1.23	1.04	1.07
3800.00	10.28	10.25	10.17	10.14	10.18	10.27	0.14	25.72	33.18	29.50	33.37	4.85	1.32	1.24	1.21
4100.00	10.31	10.29	10.33	10.28	10.31	10.31	0.06	32.70	30.12	34.08	30.77	5.81	1.35	1.14	1.12
4400.00	10.35	10.32	10.36	10.33	10.36	10.35	0.06	29.63	33.66	26.58	33.31	5.74	1.21	1.29	1.23
5000.00	10.56	10.42	10.58	10.54	10.57	10.48	0.16	28.03	24.18	21.35	24.12	5.76	1.21	1.20	1.15

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

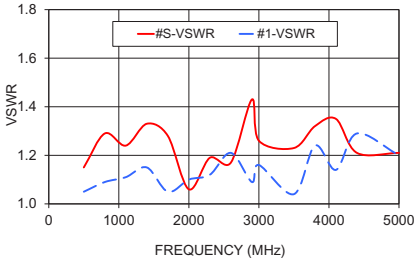
ZN8PD1-53-S+
TOTAL LOSS



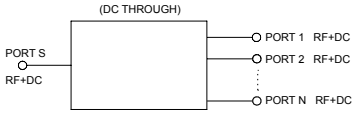
ZN8PD1-53-S+
ISOLATION



ZN8PD1-53-S+
VSWR



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.
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8 Way-0° Power Splitter/Combiner ZN8PD1-53-S+

Typical Performance Data

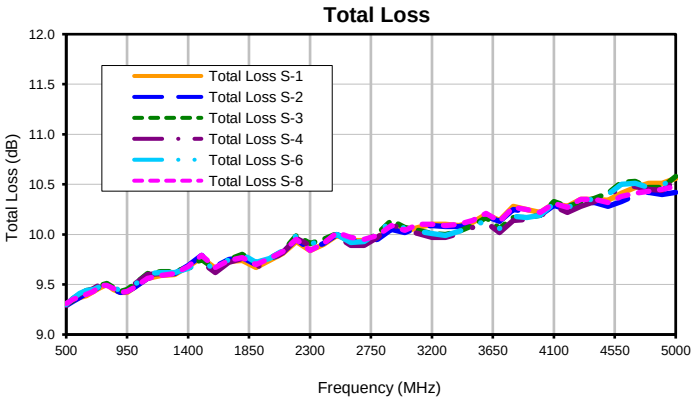
FREQ. (MHz)	TOTAL LOSS[1] (dB)						AMP. UNBAL. (dB)	ISOLATION (dB)				PHASE UNBAL. (deg.)
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-3	3-4	6-7	
500	9.30	9.29	9.30	9.29	9.30	9.31	0.03	22.56	21.73	22.47	21.69	0.80
550	9.34	9.33	9.34	9.36	9.36	9.35	0.04	28.05	23.45	27.64	23.42	0.97
600	9.37	9.37	9.40	9.40	9.41	9.38	0.05	35.45	25.59	34.15	25.56	1.07
650	9.39	9.41	9.44	9.43	9.44	9.40	0.06	36.99	28.69	38.51	28.64	1.15
700	9.43	9.44	9.45	9.46	9.45	9.43	0.05	27.98	33.75	28.70	33.70	1.28
750	9.47	9.48	9.49	9.50	9.48	9.49	0.03	24.05	43.06	24.68	43.41	1.32
800	9.50	9.50	9.51	9.51	9.51	9.49	0.02	22.64	37.22	23.18	37.67	1.27
850	9.45	9.45	9.47	9.46	9.47	9.46	0.03	22.60	31.64	23.09	31.98	1.32
900	9.42	9.42	9.43	9.44	9.44	9.42	0.04	23.31	29.07	23.63	29.23	1.38
950	9.42	9.43	9.45	9.44	9.45	9.43	0.04	23.71	27.72	23.62	27.87	1.48
1000	9.47	9.47	9.50	9.50	9.49	9.47	0.04	23.66	27.26	23.23	27.30	1.45
1100	9.56	9.56	9.61	9.60	9.61	9.56	0.05	25.77	27.00	24.91	26.95	1.63
1200	9.59	9.60	9.63	9.61	9.62	9.59	0.05	30.45	26.28	30.70	26.23	1.73
1300	9.60	9.61	9.63	9.61	9.62	9.61	0.03	25.76	25.91	27.21	25.88	1.92
1400	9.68	9.69	9.67	9.66	9.66	9.68	0.06	21.57	27.65	22.52	27.60	1.96
1500	9.77	9.79	9.75	9.72	9.73	9.79	0.07	21.30	33.33	22.30	33.14	1.88
1600	9.66	9.68	9.65	9.62	9.65	9.67	0.07	26.74	39.38	29.24	38.78	1.98
1700	9.73	9.75	9.75	9.72	9.75	9.74	0.05	45.12	33.15	33.94	32.54	2.06
1800	9.74	9.77	9.80	9.76	9.80	9.77	0.06	36.53	33.10	29.83	32.23	2.43
1900	9.67	9.70	9.71	9.67	9.72	9.70	0.05	29.50	39.81	29.04	38.27	2.74
2000	9.74	9.75	9.76	9.73	9.76	9.76	0.04	27.61	38.94	26.96	40.33	3.01
2100	9.81	9.82	9.83	9.82	9.84	9.83	0.05	26.26	32.11	23.68	32.42	3.04
2200	9.93	9.95	9.99	9.96	9.99	9.95	0.08	26.60	31.45	22.93	31.57	3.19
2300	9.84	9.85	9.91	9.89	9.90	9.84	0.09	37.25	33.82	27.17	34.21	3.29
2400	9.90	9.91	9.95	9.93	9.95	9.91	0.07	29.07	34.29	28.78	34.86	3.40
2500	9.99	10.00	10.01	9.98	10.00	10.02	0.06	26.74	32.23	28.57	32.43	3.62
2600	9.94	9.94	9.92	9.89	9.92	9.97	0.08	29.34	32.30	31.94	32.62	3.43
2700	9.94	9.93	9.93	9.89	9.93	9.95	0.07	31.23	35.39	28.02	36.31	3.19
2800	9.97	9.95	10.01	9.97	10.02	9.99	0.07	25.07	36.08	22.30	36.10	3.19
2900	10.07	10.05	10.14	10.10	10.13	10.09	0.09	22.25	33.06	20.62	32.79	3.49
3000	10.03	10.02	10.07	10.04	10.06	10.04	0.05	22.73	32.06	22.17	32.25	4.17
3100	10.07	10.07	10.04	10.01	10.03	10.10	0.09	23.54	32.65	25.19	33.22	4.36
3200	10.10	10.09	10.01	9.97	10.01	10.10	0.13	24.43	33.18	28.87	33.25	4.30
3300	10.10	10.08	10.00	9.97	9.99	10.09	0.13	26.23	33.33	32.28	33.14	4.03
3400	10.09	10.08	10.03	10.01	10.03	10.10	0.10	25.89	34.91	28.74	35.29	4.20
3500	10.12	10.10	10.09	10.07	10.08	10.14	0.08	22.67	36.22	23.83	36.77	4.48
3600	10.20	10.18	10.17	10.12	10.14	10.21	0.10	21.67	33.49	23.14	33.25	4.91
3700	10.14	10.13	10.06	10.02	10.06	10.13	0.13	23.10	31.64	25.54	31.50	5.04
3800	10.28	10.25	10.17	10.14	10.18	10.27	0.14	25.72	33.18	29.50	33.37	4.85
3900	10.25	10.23	10.17	10.15	10.17	10.25	0.10	33.03	37.81	47.30	37.94	5.06
4000	10.22	10.19	10.19	10.18	10.19	10.22	0.05	32.70	34.56	31.31	34.82	5.36
4100	10.31	10.29	10.33	10.28	10.31	10.31	0.06	32.70	30.12	34.08	30.77	5.81
4200	10.28	10.25	10.28	10.22	10.27	10.27	0.06	30.61	28.73	34.17	29.21	5.97
4300	10.35	10.31	10.32	10.28	10.32	10.35	0.07	25.63	30.02	25.59	30.00	5.80
4400	10.35	10.32	10.36	10.33	10.36	10.35	0.06	29.63	33.66	26.58	33.31	5.74
4500	10.34	10.28	10.41	10.38	10.40	10.32	0.14	32.58	36.03	28.24	36.35	5.64
4600	10.41	10.33	10.52	10.48	10.50	10.38	0.19	22.21	32.32	23.35	32.01	6.23
4700	10.47	10.39	10.53	10.48	10.51	10.41	0.14	20.75	28.62	23.54	28.35	6.58
4800	10.51	10.42	10.47	10.45	10.47	10.43	0.09	24.01	26.11	32.60	26.20	6.25
4900	10.51	10.40	10.47	10.44	10.49	10.45	0.11	29.44	24.57	27.33	24.77	5.84
5000	10.56	10.42	10.58	10.54	10.57	10.48	0.16	28.03	24.18	21.35	24.12	5.76

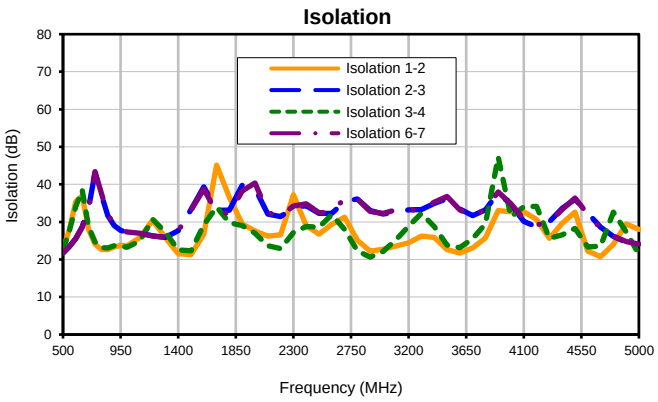
FREQ. (MHz)	VSWR (:1)		
	S	1	8
500	1.15	1.05	1.05
550	1.22	1.06	1.05
600	1.20	1.06	1.05
650	1.09	1.08	1.06
700	1.09	1.10	1.08
750	1.23	1.10	1.09
800	1.29	1.09	1.09
850	1.24	1.07	1.08
900	1.11	1.06	1.07
950	1.08	1.06	1.07
1000	1.19	1.08	1.08
1100	1.24	1.11	1.11
1200	1.12	1.12	1.10
1300	1.15	1.12	1.10
1400	1.33	1.15	1.15
1500	1.42	1.16	1.17
1600	1.11	1.09	1.08
1700	1.28	1.05	1.06
1800	1.34	1.09	1.10
1900	1.08	1.05	1.07
2000	1.06	1.10	1.11
2100	1.18	1.12	1.13
2200	1.43	1.16	1.17
2300	1.19	1.12	1.11
2400	1.23	1.08	1.09
2500	1.35	1.17	1.19
2600	1.17	1.21	1.22
2700	1.13	1.18	1.17
2800	1.24	1.06	1.04
2900	1.43	1.09	1.11
3000	1.26	1.16	1.18
3100	1.25	1.19	1.20
3200	1.21	1.21	1.21
3300	1.13	1.20	1.18
3400	1.11	1.11	1.08
3500	1.23	1.04	1.07
3600	1.36	1.19	1.20
3700	1.05	1.25	1.23
3800	1.32	1.24	1.21
3900	1.24	1.16	1.12
4000	1.16	1.07	1.04
4100	1.35	1.14	1.12
4200	1.17	1.14	1.12
4300	1.22	1.21	1.18
4400	1.21	1.29	1.23
4500	1.11	1.21	1.16
4600	1.24	1.10	1.04
4700	1.21	1.19	1.13
4800	1.10	1.25	1.18
4900	1.06	1.21	1.15
5000	1.21	1.20	1.15

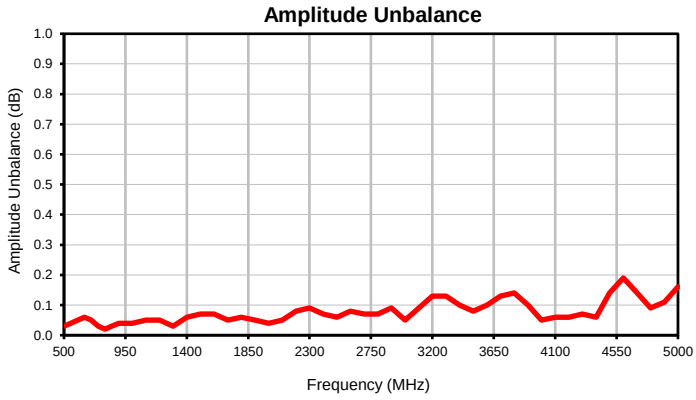
[1]Total Loss = Insertion Loss + 9dB Splitter Loss

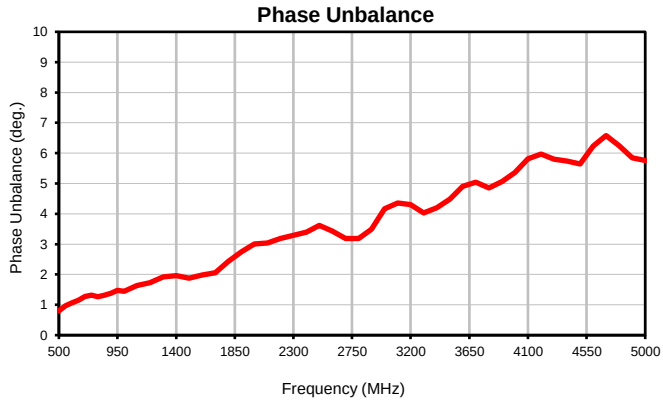
8 Way-0° Power Splitter/Combiner ZN8PD1-53-S+

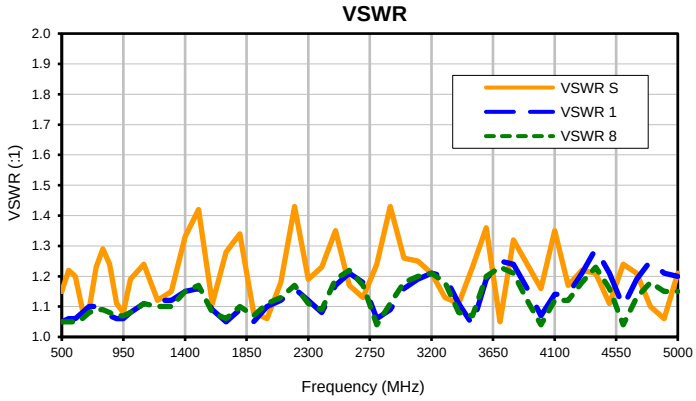
Typical Performance Curves







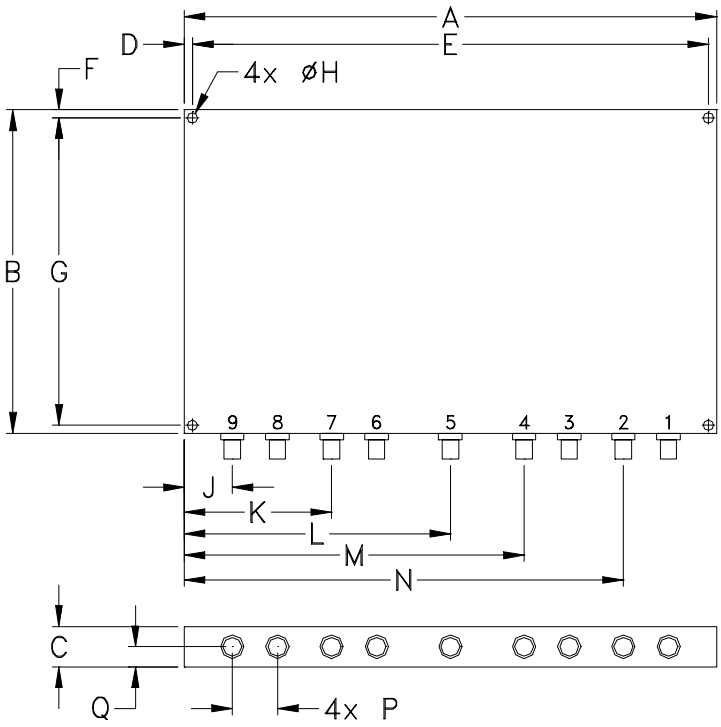




Case Style JN

JN1359

Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M	N
JN1359	8.25 (209.55)	5.00 (127.00)	.63 (16.00)	.13 (3.30)	8.000 (203.20)	.13 (3.30)	4.750 (120.65)	.156 (3.96)	.74 (18.80)	2.28 (57.91)	4.13 (104.90)	5.27 (133.86)	6.81 (172.97)

CASE #.	P	Q	WT, GRAM
JN1359	.70 (17.78)	.31 (7.87)	720

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
   For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.

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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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