

Engineering Development Model

Power Splitter/Combiner ZB8PD1-ED13143/1

8 Way-0°

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



SMA version shown

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CASE STYLE : Z41

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C				
Parameter		Min.	Typ.	Max. Units
Frequency		400		2800 MHz
Isolation	400 - 2800 MHz		25	dB
Insertion Loss Above 9.0 dB	400 - 2800 MHz		0.60	dB
Phase Unbalance	400 - 2800 MHz		1.20	deg.
Amplitude Unbalance	400 - 2800 MHz		0.20	dB
VSWR	SUM Port		1.40	(:1)
	OUT Ports		1.10	(:1)

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

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

Functional Diagram



8 Way-0° Power Splitter/Combiner

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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)						AMP. UNBAL. (dB)	ISOLATION (dB)				PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	5-6	6-7	7-8			S	1	8
400.0	9.31	9.27	9.18	9.20	9.26	9.36	0.18	6.65	6.66	6.71	6.63	0.86	400.0	1.23	1.38	1.36
500.0	9.45	9.36	9.25	9.34	9.42	9.47	0.22	8.54	8.51	8.60	8.51	1.16	500.0	1.46	1.28	1.25
600.0	9.68	9.63	9.48	9.63	9.64	9.71	0.23	10.46	10.38	10.41	10.44	1.04	600.0	1.80	1.24	1.21
700.0	9.62	9.59	9.48	9.59	9.55	9.64	0.16	11.88	11.83	11.71	11.87	0.85	700.0	1.71	1.18	1.14
800.0	9.53	9.49	9.42	9.47	9.46	9.52	0.11	14.09	14.06	13.90	14.08	0.83	800.0	1.52	1.13	1.10
900.0	9.67	9.65	9.63	9.62	9.62	9.66	0.06	17.98	17.81	18.13	17.96	0.80	900.0	1.74	1.16	1.14
1000.0	10.00	9.98	10.02	9.98	9.95	9.98	0.06	23.06	22.96	23.57	23.01	0.74	1000.0	2.12	1.22	1.18
1100.0	10.14	10.11	10.18	10.12	10.13	10.11	0.08	23.42	24.07	23.28	23.46	0.66	1100.0	2.31	1.23	1.20
1150.0	10.08	10.06	10.11	10.06	10.08	10.04	0.08	22.27	22.85	22.18	22.34	1.01	1150.0	2.26	1.22	1.19
1200.0	9.93	9.96	9.99	9.91	9.97	9.95	0.08	21.56	22.01	21.65	21.67	0.99	1200.0	2.11	1.21	1.18
1250.0	9.82	9.77	9.85	9.83	9.84	9.76	0.09	21.33	21.78	21.84	21.47	0.92	1250.0	1.90	1.19	1.17
1300.0	9.57	9.59	9.61	9.61	9.61	9.59	0.05	21.70	22.03	22.64	21.88	1.45	1300.0	1.67	1.17	1.15
1350.0	9.49	9.51	9.56	9.52	9.56	9.50	0.07	22.74	23.10	24.19	22.96	1.13	1350.0	1.47	1.15	1.13
1400.0	9.34	9.35	9.38	9.41	9.37	9.34	0.07	24.31	24.77	26.09	24.56	1.28	1400.0	1.30	1.13	1.11
1450.0	9.34	9.39	9.40	9.38	9.40	9.38	0.06	26.63	27.22	28.21	26.97	1.28	1450.0	1.17	1.11	1.10
1500.0	9.31	9.32	9.38	9.35	9.35	9.31	0.07	29.67	30.40	29.94	30.18	0.99	1500.0	1.06	1.09	1.08
1600.0	9.35	9.38	9.44	9.37	9.41	9.35	0.09	37.34	36.82	32.71	39.00	1.16	1600.0	1.13	1.08	1.07
1700.0	9.37	9.43	9.46	9.38	9.44	9.38	0.09	38.81	37.07	37.75	40.70	1.36	1700.0	1.17	1.09	1.08
1800.0	9.37	9.43	9.48	9.40	9.48	9.38	0.11	39.87	38.47	46.14	42.11	1.18	1800.0	1.12	1.09	1.09
1850.0	9.40	9.43	9.49	9.44	9.50	9.38	0.12	38.78	37.66	45.97	40.10	1.22	1850.0	1.11	1.08	1.08
1900.0	9.38	9.44	9.48	9.43	9.51	9.38	0.13	36.25	35.19	42.25	36.74	1.00	1900.0	1.11	1.07	1.07
1950.0	9.40	9.44	9.51	9.46	9.54	9.38	0.16	33.68	32.92	37.91	33.85	1.03	1950.0	1.10	1.05	1.05
2000.0	9.39	9.47	9.52	9.47	9.56	9.40	0.16	31.77	31.17	34.25	31.87	0.86	2000.0	1.09	1.03	1.04
2050.0	9.40	9.48	9.56	9.48	9.59	9.39	0.20	30.78	30.20	31.59	30.90	1.00	2050.0	1.08	1.01	1.02
2100.0	9.42	9.52	9.60	9.54	9.63	9.41	0.21	30.59	29.96	29.93	30.76	0.85	2100.0	1.10	1.01	1.01
2150.0	9.40	9.53	9.63	9.54	9.65	9.39	0.26	31.07	30.44	29.23	31.32	1.12	2150.0	1.09	1.02	1.02
2200.0	9.46	9.59	9.68	9.62	9.70	9.43	0.27	32.13	31.61	29.63	32.46	1.09	2200.0	1.08	1.03	1.02
2250.0	9.44	9.60	9.65	9.58	9.66	9.43	0.23	33.02	33.22	31.25	33.24	1.46	2250.0	1.06	1.03	1.02
2300.0	9.44	9.60	9.67	9.56	9.68	9.43	0.25	32.80	34.36	34.50	32.65	1.22	2300.0	1.05	1.03	1.03
2350.0	9.45	9.59	9.62	9.54	9.64	9.43	0.21	31.06	32.97	35.96	30.66	1.11	2350.0	1.04	1.04	1.03
2400.0	9.41	9.57	9.67	9.52	9.67	9.42	0.27	29.03	30.62	31.94	28.59	1.15	2400.0	1.08	1.05	1.05
2450.0	9.44	9.59	9.66	9.54	9.70	9.43	0.27	27.64	28.75	28.18	27.24	0.91	2450.0	1.12	1.07	1.07
2500.0	9.43	9.60	9.68	9.53	9.70	9.44	0.27	26.46	27.10	25.69	26.23	1.13	2500.0	1.15	1.09	1.09
2600.0	9.53	9.70	9.75	9.52	9.78	9.47	0.31	23.48	23.23	22.46	23.45	1.40	2600.0	1.24	1.13	1.12
2650.0	9.48	9.70	9.85	9.49	9.82	9.49	0.37	21.60	21.15	20.91	21.53	0.94	2650.0	1.27	1.16	1.15
2700.0	9.65	9.77	9.88	9.60	9.89	9.48	0.41	19.66	19.03	19.14	19.70	2.67	2700.0	1.31	1.19	1.18
2750.0	9.63	9.99	10.15	9.69	10.02	9.66	0.53	17.96	17.44	17.51	18.03	1.47	2750.0	1.47	1.24	1.23
2800.0	10.00	10.08	10.17	10.09	10.12	9.78	0.39	16.46	15.85	15.85	16.50	3.76	2800.0	1.85	1.30	1.29

¹Total Loss = Insertion Loss + 9dB Splitter Loss



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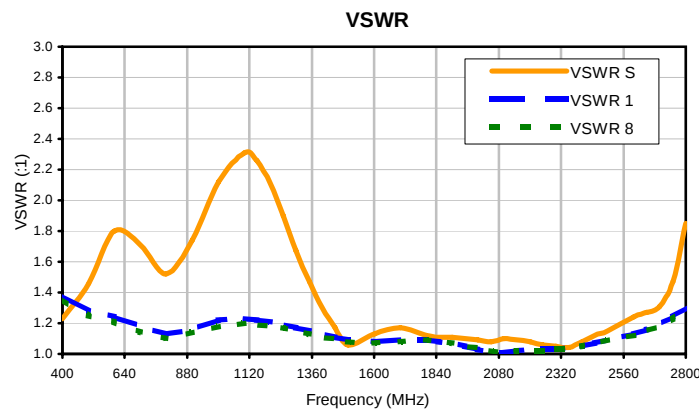
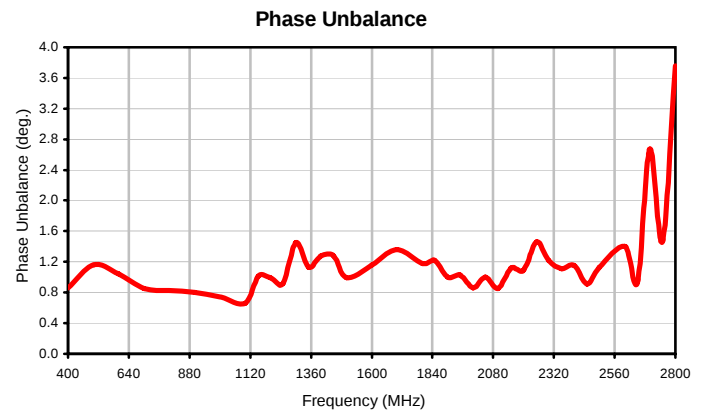
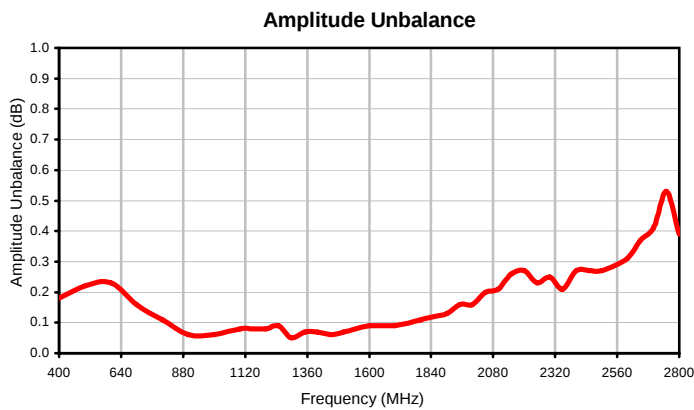
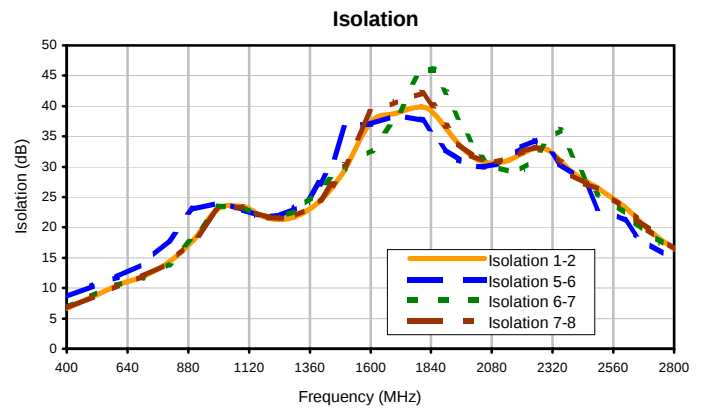
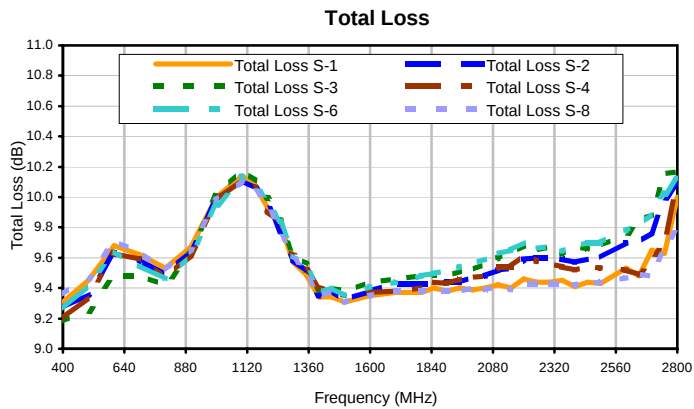
IF/RF MICROWAVE COMPONENTS

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Typical Performance Curves



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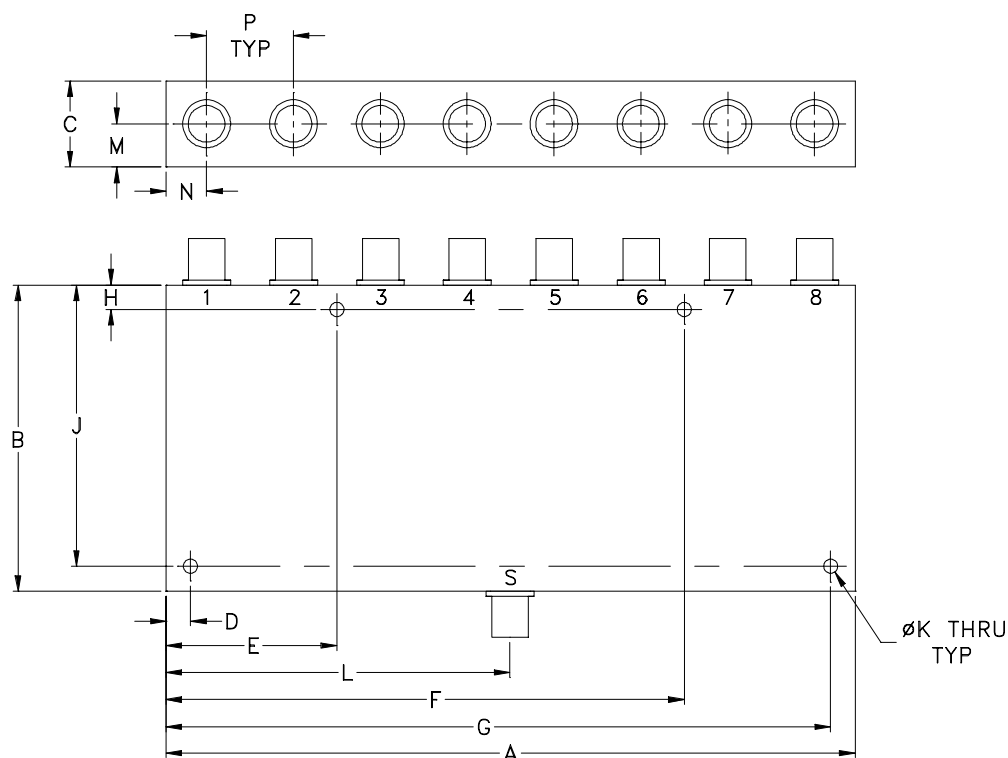
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Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
Z41	7.06 (179.32)	3.13 (79.50)	.88 (22.35)	.250 (6.35)	1.750 (44.45)	5.310 (134.87)	6.810 (172.97)	.250 (6.35)	2.875 (73.03)	.144 (3.66)	3.53 (89.66)	.44 (11.18)	.415 (10.54)

CASE#	P	WT.GRAMS
Z41	.89 (22.61)	800

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

Notes:

- Case material: Aluminum alloy.
- Case finish:

For RoHS Case Styles:

Clear chemical conversion coating, non-chrome or trivalent chrome based.



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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