

Engineering Development Model

Power Splitter/Combiner

ZC4PD-ED13643/1

4 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.

Please click "Back", and then click "Contact Us" for Applications support.



SMA shown for reference

CASE STYLE : Z184

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C

Parameter		Min.	Typ.	Max.	Units
Frequency		4100		8000	MHz
Isolation	4100-8000 MHz		22		dB
Insertion Loss Above 6.0 dB	4100-8000 MHz		0.85		dB
Phase Unbalance	4100-8000 MHz		3.20		deg.
Amplitude Unbalance	4100-8000 MHz		0.25		dB
VSWR	SUM Port		1.22		(:1)
	OUT Ports		1.19		(:1)

MAXIMUM RATINGS

Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C

COAXIAL CONNECTIONS

SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4

electrical schematic



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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		1-2	2-3	3-4			S	1	2	3	4
4100.0	7.07	6.77	6.63	6.61	0.46	17.66	32.57	17.60	5.14	4100.0	1.39	1.57	1.36	1.39	1.38
4250.0	6.86	6.70	6.74	6.55	0.31	18.24	30.65	18.16	4.50	4250.0	1.30	1.47	1.31	1.34	1.32
4400.0	6.73	6.67	6.85	6.51	0.34	19.75	28.73	19.67	3.20	4400.0	1.27	1.39	1.27	1.29	1.28
4500.0	6.68	6.66	6.86	6.50	0.36	21.63	27.86	21.58	2.43	4500.0	1.27	1.34	1.24	1.27	1.25
4600.0	6.68	6.68	6.80	6.51	0.28	24.84	27.23	24.88	2.20	4600.0	1.28	1.30	1.22	1.25	1.23
4700.0	6.69	6.72	6.70	6.56	0.16	30.91	26.65	31.01	1.99	4700.0	1.29	1.27	1.21	1.23	1.21
4800.0	6.70	6.74	6.62	6.59	0.15	32.10	25.84	31.04	1.92	4800.0	1.28	1.25	1.20	1.22	1.20
4900.0	6.69	6.74	6.58	6.59	0.17	24.48	24.74	23.88	1.90	4900.0	1.25	1.22	1.20	1.21	1.18
5000.0	6.67	6.73	6.57	6.58	0.16	20.80	23.84	20.40	1.87	5000.0	1.20	1.19	1.20	1.20	1.17
5050.0	6.66	6.72	6.58	6.58	0.15	19.93	23.65	19.63	1.95	5050.0	1.18	1.18	1.20	1.20	1.16
5100.0	6.65	6.71	6.59	6.57	0.15	19.54	23.64	19.32	2.09	5100.0	1.16	1.16	1.19	1.20	1.15
5150.0	6.63	6.71	6.61	6.56	0.15	19.50	23.79	19.37	2.22	5150.0	1.13	1.15	1.19	1.19	1.13
5200.0	6.61	6.70	6.63	6.54	0.16	19.73	24.05	19.67	2.26	5200.0	1.12	1.13	1.20	1.19	1.12
5250.0	6.60	6.70	6.65	6.53	0.17	20.14	24.38	20.15	2.24	5250.0	1.11	1.13	1.19	1.18	1.11
5300.0	6.60	6.71	6.66	6.53	0.18	20.65	24.76	20.72	2.14	5300.0	1.12	1.12	1.19	1.18	1.10
5350.0	6.60	6.72	6.68	6.53	0.19	21.21	25.20	21.36	2.05	5350.0	1.13	1.12	1.19	1.17	1.10
5400.0	6.61	6.74	6.70	6.54	0.20	21.81	25.67	22.04	2.05	5400.0	1.16	1.11	1.18	1.16	1.09
5450.0	6.63	6.75	6.71	6.55	0.20	22.43	26.17	22.74	2.11	5450.0	1.19	1.11	1.17	1.15	1.09
5500.0	6.64	6.77	6.73	6.56	0.21	23.08	26.72	23.48	2.13	5500.0	1.20	1.11	1.17	1.14	1.09
5520.0	6.65	6.78	6.73	6.57	0.21	23.35	26.95	23.79	2.17	5520.0	1.21	1.11	1.16	1.14	1.09
5540.0	6.66	6.78	6.73	6.58	0.21	23.63	27.19	24.10	2.22	5540.0	1.22	1.11	1.16	1.13	1.09
5560.0	6.67	6.79	6.74	6.58	0.21	23.92	27.44	24.43	2.28	5560.0	1.23	1.11	1.15	1.13	1.09
5580.0	6.67	6.80	6.75	6.59	0.21	24.21	27.70	24.77	2.33	5580.0	1.24	1.11	1.15	1.12	1.08
5600.0	6.68	6.81	6.76	6.60	0.21	24.50	27.97	25.11	2.39	5600.0	1.25	1.11	1.14	1.12	1.08
5620.0	6.68	6.82	6.77	6.60	0.21	24.80	28.24	25.45	2.44	5620.0	1.26	1.10	1.14	1.12	1.08
5640.0	6.68	6.82	6.77	6.60	0.22	25.12	28.51	25.80	2.50	5640.0	1.26	1.10	1.13	1.11	1.07
5660.0	6.69	6.83	6.78	6.61	0.22	25.45	28.80	26.17	2.53	5660.0	1.27	1.09	1.13	1.11	1.07
5680.0	6.70	6.85	6.79	6.62	0.23	25.78	29.09	26.55	2.56	5680.0	1.28	1.08	1.13	1.10	1.06
5700.0	6.70	6.85	6.80	6.62	0.22	26.12	29.38	26.94	2.60	5700.0	1.29	1.08	1.13	1.10	1.06
5750.0	6.70	6.86	6.82	6.63	0.23	27.02	30.09	27.91	2.65	5750.0	1.30	1.08	1.12	1.09	1.05
5800.0	6.69	6.87	6.82	6.64	0.23	27.89	30.80	28.84	2.71	5800.0	1.30	1.07	1.10	1.08	1.04
5850.0	6.68	6.87	6.83	6.64	0.23	28.64	31.46	29.52	2.74	5850.0	1.30	1.06	1.10	1.07	1.04
5900.0	6.68	6.87	6.82	6.65	0.22	29.05	32.10	29.74	2.76	5900.0	1.30	1.05	1.08	1.06	1.03
5950.0	6.68	6.87	6.82	6.66	0.21	28.96	32.62	29.33	2.80	5950.0	1.29	1.04	1.07	1.05	1.03
6000.0	6.68	6.86	6.80	6.67	0.19	28.36	32.96	28.45	2.86	6000.0	1.28	1.04	1.06	1.04	1.03
6050.0	6.67	6.85	6.79	6.68	0.18	27.43	32.98	27.31	2.93	6050.0	1.27	1.03	1.05	1.02	1.03
6100.0	6.68	6.84	6.77	6.69	0.16	26.37	32.70	26.15	3.04	6100.0	1.25	1.03	1.03	1.01	1.05
6150.0	6.69	6.84	6.76	6.70	0.15	25.32	32.13	25.04	3.10	6150.0	1.23	1.03	1.01	1.01	1.06
6200.0	6.69	6.83	6.74	6.71	0.14	24.36	31.41	24.07	3.22	6200.0	1.20	1.04	1.02	1.03	1.08
6250.0	6.71	6.83	6.73	6.72	0.12	23.50	30.56	23.20	3.31	6250.0	1.18	1.06	1.03	1.05	1.11
6300.0	6.72	6.83	6.72	6.73	0.11	22.76	29.78	22.48	3.45	6300.0	1.15	1.08	1.05	1.07	1.13
6350.0	6.73	6.84	6.72	6.75	0.12	22.13	28.98	21.85	3.60	6350.0	1.13	1.10	1.08	1.09	1.15
6400.0	6.75	6.85	6.72	6.76	0.12	21.61	28.28	21.34	3.70	6400.0	1.10	1.12	1.10	1.12	1.18
6450.0	6.77	6.86	6.73	6.79	0.13	21.18	27.65	20.91	3.84	6450.0	1.07	1.15	1.13	1.14	1.20
6500.0	6.80	6.88	6.75	6.81	0.13	20.84	27.12	20.57	3.98	6500.0	1.04	1.17	1.15	1.16	1.23
6550.0	6.83	6.90	6.77	6.84	0.13	20.56	26.64	20.28	4.10	6550.0	1.02	1.19	1.17	1.18	1.25
6600.0	6.85	6.93	6.80	6.86	0.12	20.34	26.26	20.04	4.21	6600.0	1.04	1.21	1.20	1.20	1.27
6650.0	6.88	6.96	6.84	6.89	0.12	20.15	25.96	19.83	4.35	6650.0	1.07	1.22	1.21	1.22	1.29
6700.0	6.90	7.00	6.88	6.92	0.11	19.97	25.74	19.62	4.51	6700.0	1.11	1.23	1.24	1.23	1.30
6720.0	6.91	7.01	6.91	6.94	0.11	19.90	25.68	19.54	4.51	6720.0	1.12	1.24	1.25	1.24	1.31
6740.0	6.93	7.02	6.92	6.95	0.10	19.82	25.62	19.46	4.53	6740.0	1.14	1.24	1.25	1.24	1.31
6760.0	6.94	7.03	6.95	6.96	0.09	19.74	25.58	19.36	4.58	6760.0	1.15	1.24	1.25	1.25	1.31
6780.0	6.95	7.05	6.97	6.97	0.10	19.65	25.54	19.25	4.63	6780.0	1.17	1.24	1.25	1.25	1.31
6800.0	6.95	7.07	6.99	6.98	0.11	19.56	25.53	19.15	4.63	6800.0	1.18	1.24	1.26	1.25	1.31
6820.0	6.97	7.08	7.01	7.00	0.12	19.46	25.52	19.03	4.65	6820.0	1.19	1.24	1.26	1.25	1.31
6840.0	6.98	7.10	7.03	7.01	0.12	19.35	25.52	18.91	4.66	6840.0	1.21	1.24	1.27	1.25	1.31
6860.0	6.99	7.11	7.05	7.02	0.13	19.23	25.54	18.78	4.65	6860.0	1.22	1.24	1.27	1.25	1.31
6880.0	6.99	7.13	7.07	7.02	0.14	19.10	25.56	18.63	4.68	6880.0	1.23	1.23	1.27	1.25	1.30
6900.0	6.99	7.14	7.09	7.03	0.15	18.96	25.59	18.48	4.68	6900.0	1.24	1.23	1.27	1.25	1.30
7000.0	7.01	7.19	7.16	7.07	0.18	18.14	25.93	17.62	4.55	7000.0	1.29	1.20	1.26	1.23	1.27
7100.0	7.01	7.22	7.19	7.08	0.21	17.20	26.51	16.66	4.27	7100.0	1.32	1.15	1.24	1.21	1.21
7200.0	7.01	7.23	7.16	7.10	0.22	16.27	27.34	15.73	3.79	7200.0	1.33	1.09	1.21	1.18	1.15
7300.0	7.03	7.21	7.09	7.12	0.19	15.47	28.45	14.94	3.16	7300.0	1.31	1.04	1.19	1.16	1.11
7400.0	7.10	7.20	7.00	7.21	0.21	14.87	29.92	14.36	2.45	7400.0	1.28	1.07	1.20	1.17	1.12
7500.0	7.27	7.20	6.89	7.36	0.47	14.54	31.70	14.08	1.93	7500.0	1.24	1.16	1.22	1.22	1.21
7600.0	7.49	7.18	6.79	7.56	0.77	14.51	32.74	14.07	1.90	7600.0	1.23	1.26	1.26	1.27	1.31
7700.0	7.57	7.11	6.73	7.66	0.93	14.71	31.99	14.27	2.76	7700.0	1.27	1.35	1.30	1.34	1.42
7800.0	7.47	7.05	6.70	7.62	0.92	15.01	30.38	14.68	3.83	7800.0	1.34	1.41	1.36	1.40	1.50
7900.0	7.36	7.03	6.68	7.54	0.85	15.44	28.49	15.38	4.32	7900.0	1.38	1.45	1.40	1.44	1.56
8000.0	7.30	7.02	6.67	7.46	0.79	16.10	26.51	16.31	4.30	8000.0	1.38	1.46	1.42	1.46	1.59

¹Total Loss = Insertion Loss + 6dB Splitter Loss



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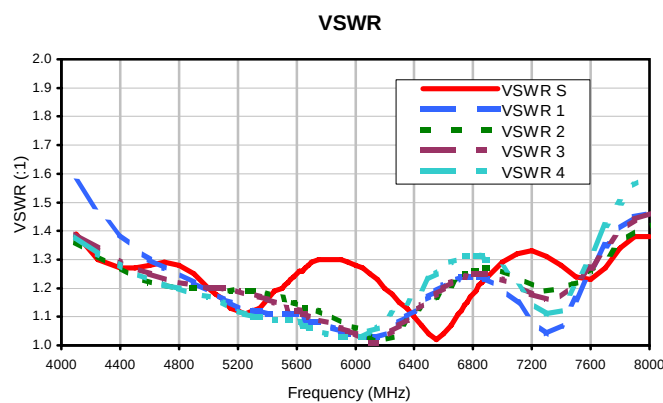
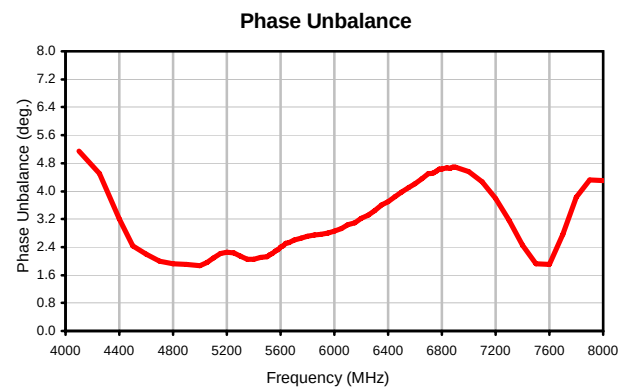
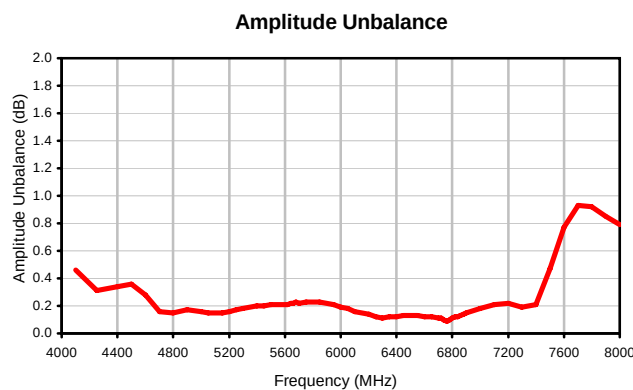
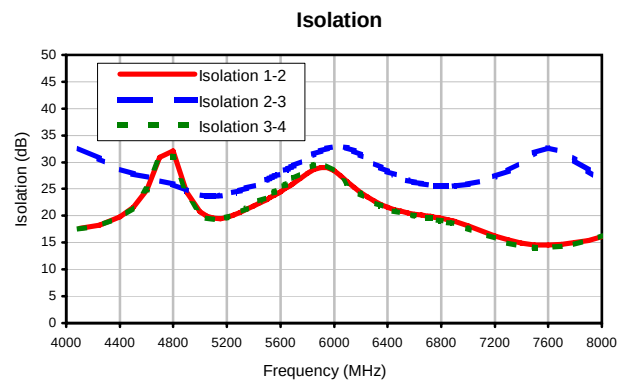
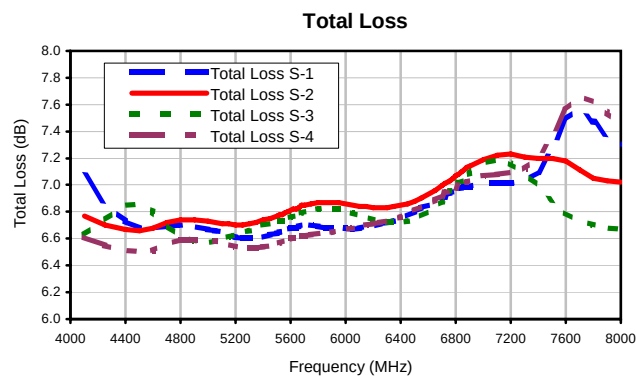
IF/RF MICROWAVE COMPONENTS

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Typical Performance Curves



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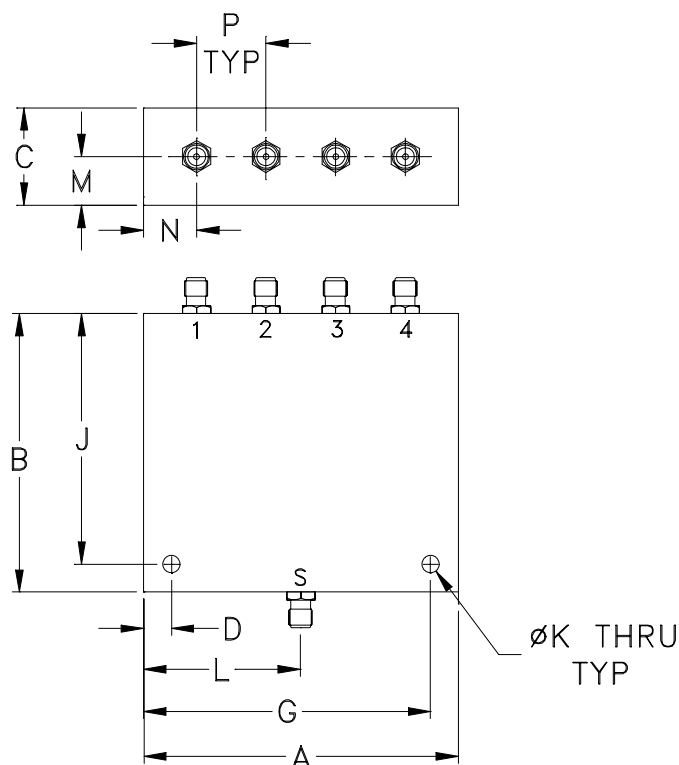
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Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
Z184	2.26 (57.40)	2.00 (50.80)	.70 (17.78)	.200 (5.08)	--	--	2.060 (52.32)	--	1.800 (45.72)	.125 (3.17)	1.13 (28.70)	.35 (8.89)	.38 (9.65)

CASE#	P	WT.GRAMS
Z184	.500 (12.70)	59

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	-20° to 85°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