

Power Splitter/Combiner

ZC4PD-18

4 Way-0° 50Ω 1000 to 1800 MHz

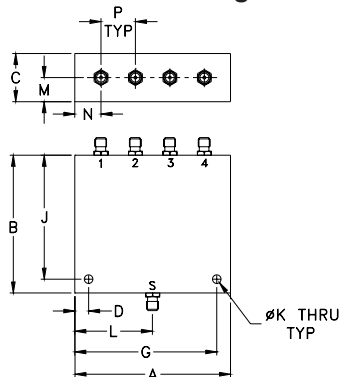
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.375W max.
DC Current	1.0 A (250mA for each port)
Permanent damage may occur if any of these limits are exceeded.	

Coaxial Connections

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

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	G	J
2.26	2.00	.70	.200	2.060	1.800
57.40	50.80	17.78	5.08	52.32	45.72
K	L	M	N	P	wt
.125	1.13	.35	.38	.500	grams
3.18	28.70	8.89	9.65	12.70	59

Features

- wideband, 1000 to 1800 MHz
- high isolation, 32 dB typ.
- up to 10W power input as splitters
- good VSWR, 1.10:1 typ.

Applications

- GPS
- communication systems



CASE STYLE: Z184

Connectors	Model
SMA	ZC4PD-18-S

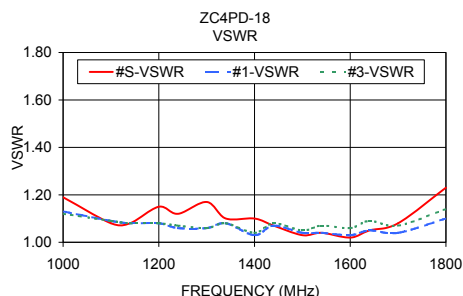
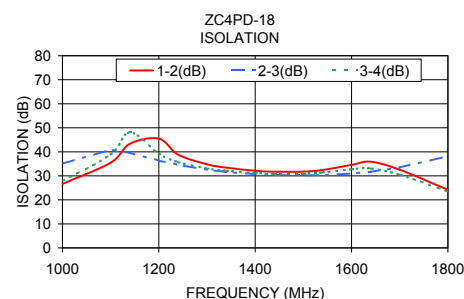
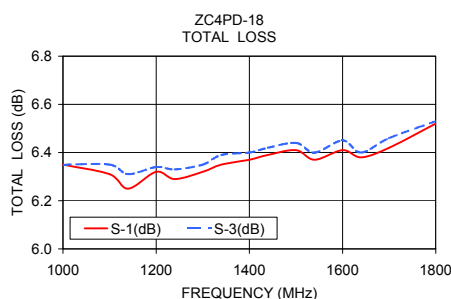
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)			
f_L - f_U	Typ.	Min.	Typ.	Max.	Max.	Max.	S		OUT	
	Typ.	Max.	Typ.	Max.			Typ.	Max.	Typ.	Max.
1000-1800	32	18	0.3	0.8	6	0.40	1.05	1.55	1.08	1.45

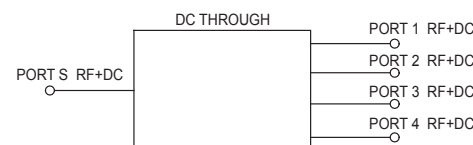
Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	2-3	3-4						
1000.00	6.35	6.34	6.35	6.34	0.01	26.64	34.99	27.84	0.31	1.19	1.13	1.13	1.12	1.12
1100.00	6.31	6.34	6.35	6.32	0.03	35.48	40.94	38.87	0.25	1.08	1.09	1.09	1.09	1.09
1140.00	6.25	6.28	6.31	6.26	0.05	43.36	39.59	48.11	0.25	1.08	1.08	1.08	1.08	1.09
1200.00	6.32	6.34	6.34	6.32	0.03	45.51	36.37	39.28	0.30	1.15	1.08	1.08	1.08	1.09
1240.00	6.29	6.32	6.33	6.32	0.04	38.82	34.55	35.71	0.30	1.12	1.06	1.07	1.07	1.08
1300.00	6.32	6.33	6.35	6.34	0.03	34.79	32.55	33.06	0.32	1.17	1.06	1.06	1.06	1.06
1340.00	6.35	6.36	6.39	6.38	0.04	33.40	31.61	32.09	0.26	1.10	1.08	1.08	1.08	1.09
1400.00	6.37	6.36	6.40	6.37	0.03	32.13	30.71	31.22	0.34	1.10	1.03	1.03	1.04	1.04
1440.00	6.39	6.38	6.42	6.39	0.04	31.72	30.35	30.88	0.38	1.07	1.07	1.07	1.08	1.09
1500.00	6.41	6.38	6.44	6.40	0.06	31.74	30.20	30.91	0.34	1.03	1.04	1.04	1.05	1.06
1540.00	6.37	6.36	6.40	6.38	0.04	32.43	30.30	31.37	0.37	1.04	1.04	1.05	1.07	1.07
1600.00	6.41	6.40	6.45	6.42	0.05	34.57	30.99	32.74	0.60	1.02	1.03	1.04	1.06	1.06
1640.00	6.38	6.37	6.40	6.38	0.03	35.90	31.69	33.09	0.56	1.05	1.05	1.06	1.09	1.08
1700.00	6.42	6.43	6.46	6.44	0.04	32.54	33.47	30.46	0.55	1.08	1.04	1.05	1.07	1.07
1800.00	6.52	6.54	6.53	6.50	0.04	24.16	38.22	23.50	0.60	1.23	1.10	1.11	1.14	1.13

1. Total Loss = Insertion Loss + 6dB splitter loss.



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



4 Way-0° Power Splitter/Combiner

ZC4PD-18+

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
1000.0	6.35	6.34	6.35	6.34	0.01	26.64	34.99	27.84	0.31	1000.0	1.19	1.13	1.13	1.12	1.12
1020.0	6.32	6.33	6.34	6.33	0.02	27.91	36.46	29.30	0.35	1020.0	1.17	1.10	1.10	1.09	1.09
1040.0	6.26	6.28	6.27	6.26	0.02	29.35	37.90	30.99	0.36	1040.0	1.15	1.10	1.10	1.09	1.10
1060.0	6.30	6.33	6.33	6.31	0.03	31.10	39.38	33.04	0.33	1060.0	1.12	1.12	1.12	1.11	1.11
1080.0	6.31	6.33	6.36	6.33	0.04	33.08	40.40	35.59	0.26	1080.0	1.09	1.11	1.11	1.10	1.11
1100.0	6.31	6.34	6.35	6.32	0.03	35.48	40.94	38.87	0.25	1100.0	1.08	1.09	1.09	1.09	1.09
1120.0	6.30	6.33	6.34	6.32	0.04	38.68	40.48	43.25	0.36	1120.0	1.07	1.08	1.08	1.08	1.08
1140.0	6.25	6.28	6.31	6.26	0.05	43.36	39.59	48.11	0.25	1140.0	1.08	1.08	1.08	1.08	1.09
1160.0	6.33	6.36	6.37	6.34	0.04	52.40	38.61	46.52	0.22	1160.0	1.10	1.09	1.09	1.09	1.09
1180.0	6.37	6.39	6.41	6.37	0.04	55.15	37.46	42.10	0.25	1180.0	1.13	1.09	1.09	1.09	1.09
1200.0	6.32	6.34	6.34	6.32	0.03	45.51	36.37	39.28	0.30	1200.0	1.15	1.08	1.08	1.08	1.09
1220.0	6.31	6.33	6.36	6.34	0.05	41.32	35.36	37.17	0.24	1220.0	1.14	1.06	1.07	1.06	1.07
1240.0	6.29	6.32	6.33	6.32	0.04	38.82	34.55	35.71	0.30	1240.0	1.12	1.06	1.07	1.07	1.08
1260.0	6.36	6.39	6.39	6.37	0.03	37.23	33.83	34.64	0.25	1260.0	1.14	1.09	1.09	1.09	1.10
1280.0	6.40	6.42	6.44	6.43	0.04	35.93	33.17	33.81	0.36	1280.0	1.17	1.09	1.09	1.09	1.10
1300.0	6.32	6.33	6.35	6.34	0.03	34.79	32.55	33.06	0.32	1300.0	1.17	1.06	1.06	1.06	1.06
1320.0	6.34	6.33	6.37	6.35	0.04	34.03	32.10	32.55	0.31	1320.0	1.12	1.04	1.05	1.05	1.06
1340.0	6.35	6.36	6.39	6.38	0.04	33.40	31.61	32.09	0.26	1340.0	1.10	1.08	1.08	1.08	1.09
1360.0	6.39	6.38	6.41	6.40	0.03	32.90	31.29	31.71	0.40	1360.0	1.13	1.08	1.09	1.09	1.10
1380.0	6.38	6.38	6.40	6.39	0.02	32.53	31.00	31.46	0.27	1380.0	1.13	1.05	1.06	1.07	1.06
1400.0	6.37	6.36	6.40	6.37	0.03	32.13	30.71	31.22	0.34	1400.0	1.10	1.03	1.03	1.04	1.04
1420.0	6.36	6.34	6.37	6.35	0.03	31.87	30.48	31.00	0.30	1420.0	1.06	1.06	1.06	1.07	1.07
1440.0	6.39	6.38	6.42	6.39	0.04	31.72	30.35	30.88	0.38	1440.0	1.07	1.07	1.07	1.08	1.09
1460.0	6.36	6.35	6.39	6.35	0.04	31.57	30.20	30.79	0.29	1460.0	1.07	1.05	1.05	1.06	1.06
1480.0	6.39	6.39	6.43	6.40	0.04	31.65	30.21	30.83	0.34	1480.0	1.05	1.03	1.03	1.04	1.04
1500.0	6.41	6.38	6.44	6.40	0.06	31.74	30.20	30.91	0.34	1500.0	1.03	1.04	1.04	1.05	1.06
1520.0	6.39	6.37	6.43	6.39	0.06	31.98	30.25	31.05	0.38	1520.0	1.03	1.05	1.05	1.07	1.07
1540.0	6.37	6.36	6.40	6.38	0.04	32.43	30.30	31.37	0.37	1540.0	1.04	1.04	1.05	1.07	1.07
1560.0	6.36	6.35	6.41	6.36	0.05	32.93	30.48	31.76	0.36	1560.0	1.04	1.04	1.04	1.06	1.06
1580.0	6.40	6.38	6.46	6.41	0.07	33.67	30.68	32.21	0.56	1580.0	1.04	1.03	1.04	1.06	1.06
1600.0	6.41	6.40	6.45	6.42	0.05	34.57	30.99	32.74	0.60	1600.0	1.02	1.03	1.04	1.06	1.06
1620.0	6.40	6.40	6.43	6.41	0.04	35.43	31.32	33.05	0.53	1620.0	1.04	1.04	1.05	1.07	1.07
1640.0	6.38	6.37	6.40	6.38	0.03	35.90	31.69	33.09	0.56	1640.0	1.05	1.05	1.06	1.09	1.08
1660.0	6.41	6.41	6.45	6.41	0.04	35.67	32.23	32.74	0.49	1660.0	1.03	1.05	1.06	1.08	1.08
1680.0	6.39	6.40	6.43	6.41	0.04	34.32	32.77	31.72	0.51	1680.0	1.04	1.03	1.04	1.06	1.06
1700.0	6.42	6.43	6.46	6.44	0.04	32.54	33.47	30.46	0.55	1700.0	1.08	1.04	1.05	1.07	1.07
1720.0	6.42	6.43	6.44	6.41	0.03	30.58	34.18	28.91	0.58	1720.0	1.09	1.07	1.08	1.11	1.10
1740.0	6.44	6.44	6.47	6.45	0.03	28.70	35.00	27.45	0.54	1740.0	1.08	1.08	1.09	1.12	1.11
1760.0	6.41	6.44	6.43	6.42	0.03	27.04	36.07	25.99	0.58	1760.0	1.14	1.07	1.08	1.10	1.09
1780.0	6.44	6.45	6.46	6.43	0.02	25.56	37.21	24.75	0.60	1780.0	1.21	1.06	1.07	1.09	1.09
1800.0	6.52	6.54	6.53	6.50	0.04	24.16	38.22	23.50	0.60	1800.0	1.23	1.10	1.11	1.14	1.13

¹ Total Loss = Insertion Loss+ 6dB Splitter Loss

REV. X2
ZC4PD-18+
100627
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Patent Pending

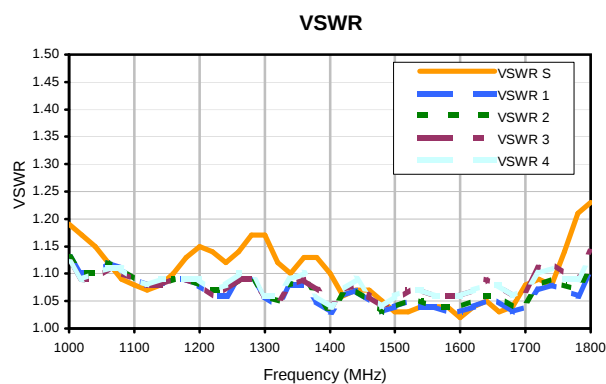
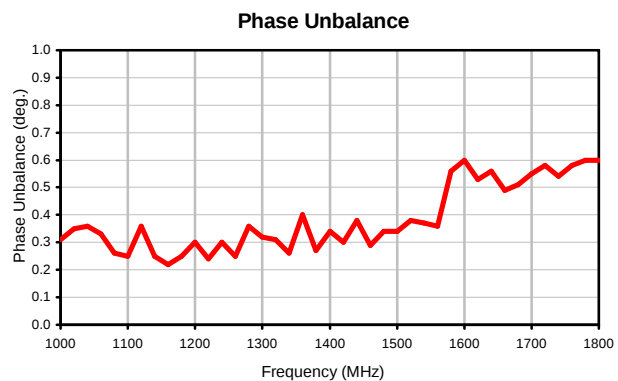
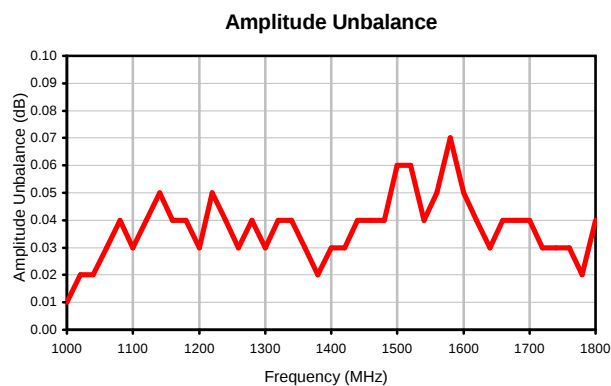
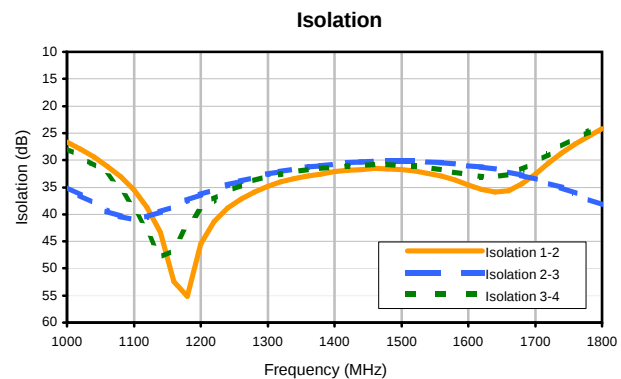
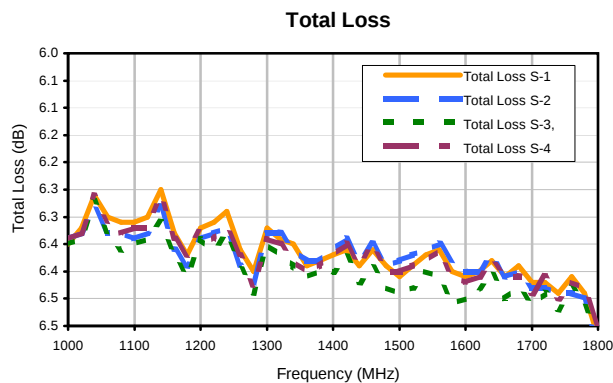
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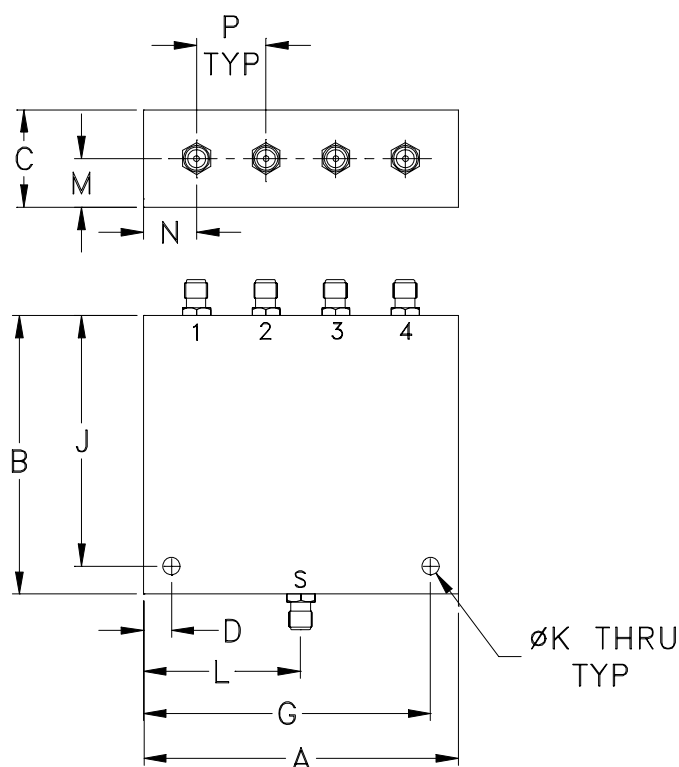
4 Way-0° Power Splitter/Combiner

ZC4PD-18+

Typical Performance Curves



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	-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