

Power Splitter/Combiner

4 Way-0° 50Ω 1700 to 4200 MHz

ZB4PD-42+



Generic photo used for illustration purposes only

CASE STYLE: Z54

Connectors	Model
SMA	ZB4PD-42-S+
N-TYPE	ZB4PD-42-N+

+RoHS Compliant

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

Maximum Ratings

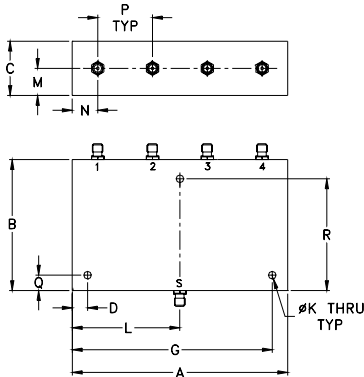
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	10W max.
Internal Dissipation	0.375W max.
DC Current	1.0 A (250mA for each port)

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	K	
3.50	2.13	.88	.250	3.250	.125	
88.90	54.10	22.35	6.35	82.55	3.18	
L	M	N	P	Q	R	wt
1.750	.44	.415	.89	.250	1.813	grams
44.45	11.18	10.54	22.61	6.35	46.05	250

Features

- wideband, 1700 to 4200 MHz
- up to 10W power input as splitters
- rugged, shielded case

Applications

- MMDS
- ISM
- receivers/transmitters

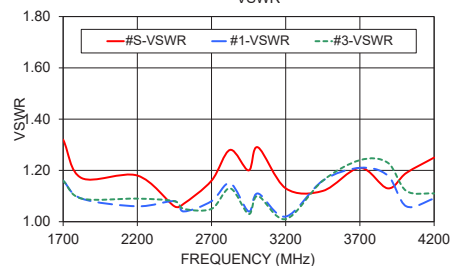
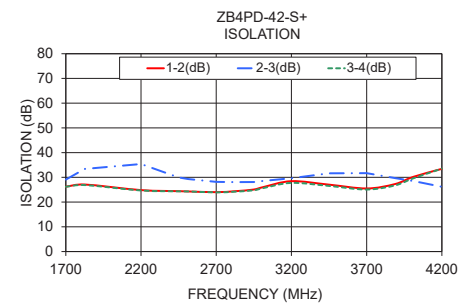
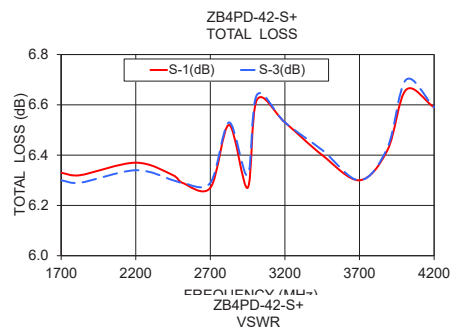
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
f_L - f_U	Typ.	Min.	Typ.	Max.	Max.	Max.
1700-4200	23	16	0.5	1.4	8	0.8

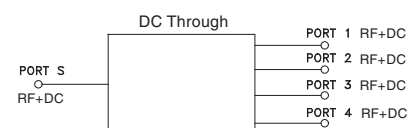
Typical Performance Data

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						
1700.00	6.33	6.32	6.30	6.31	0.03	26.23	29.11	26.20	1.52	1.32	1.16	1.15	1.16	1.17
1825.00	6.32	6.30	6.29	6.30	0.03	27.10	33.40	26.88	1.59	1.17	1.09	1.08	1.09	1.10
2200.00	6.37	6.37	6.34	6.34	0.03	24.84	35.39	24.69	1.83	1.18	1.06	1.08	1.09	1.07
2450.00	6.32	6.34	6.30	6.29	0.05	24.41	29.95	24.35	2.05	1.06	1.08	1.07	1.08	1.07
2512.50	6.29	6.31	6.29	6.26	0.06	24.30	29.31	24.29	2.09	1.07	1.04	1.03	1.05	1.04
2700.00	6.27	6.30	6.29	6.27	0.03	24.00	28.16	23.93	2.16	1.16	1.08	1.07	1.05	1.06
2825.00	6.52	6.58	6.53	6.50	0.08	24.39	28.08	24.21	2.18	1.28	1.15	1.12	1.13	1.14
2950.00	6.27	6.34	6.32	6.25	0.09	25.07	28.09	24.77	2.20	1.20	1.04	1.04	1.03	1.04
3012.50	6.62	6.69	6.64	6.58	0.11	26.05	28.54	25.65	2.40	1.29	1.11	1.08	1.10	1.12
3200.00	6.53	6.63	6.53	6.47	0.16	28.45	29.64	27.75	2.55	1.13	1.02	1.05	1.01	1.03
3450.00	6.40	6.49	6.42	6.33	0.16	27.04	31.63	26.53	2.66	1.12	1.16	1.22	1.16	1.13
3700.00	6.30	6.38	6.30	6.23	0.16	25.50	31.70	25.08	2.61	1.21	1.21	1.26	1.24	1.21
3887.50	6.42	6.50	6.43	6.34	0.16	27.26	29.70	26.73	2.65	1.13	1.18	1.20	1.23	1.21
4012.50	6.66	6.79	6.70	6.59	0.20	30.24	28.50	29.66	3.11	1.19	1.06	1.09	1.12	1.10
4200.00	6.59	6.73	6.59	6.49	0.24	33.43	26.18	33.52	3.46	1.25	1.09	1.07	1.11	1.10

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



electrical schematic



Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp



4 Way-0° Power Splitter/Combiner

ZB4PD-42+

Typical Performance Data

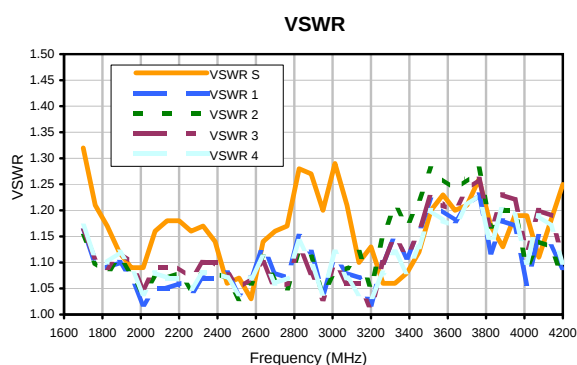
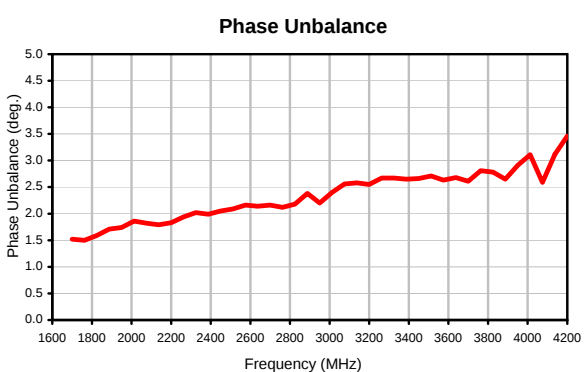
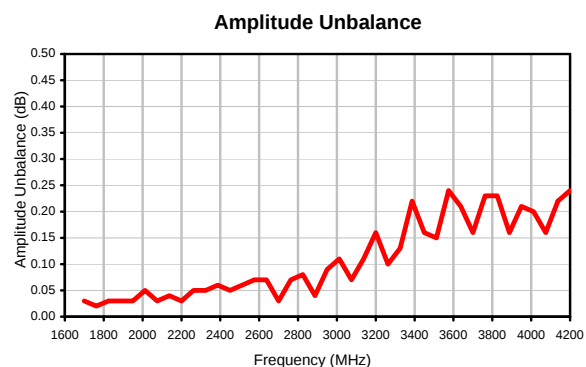
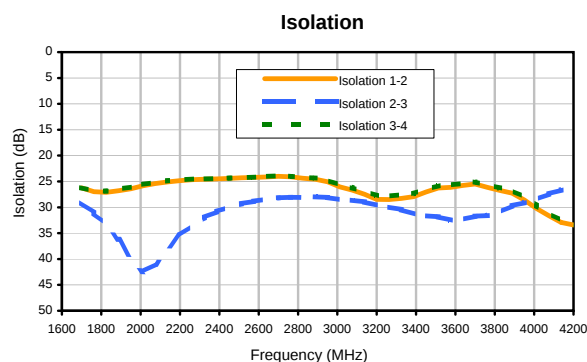
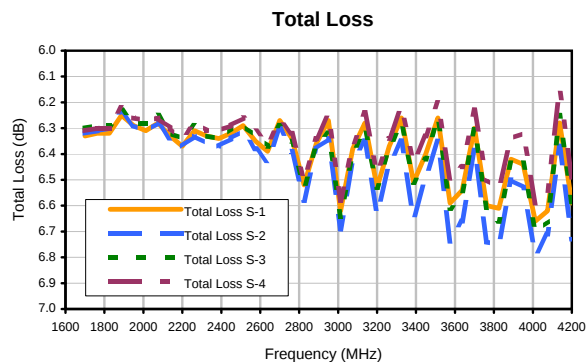
FREQ. (MHz)	TOTAL LOSS ¹ (dB)				AMP. UNBAL. (dB)	ISOLATION (dB)			PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)				
	S-1	S-2	S-3	S-4		1-2	2-3	3-4			S	1	2	3	4
1700.0	6.33	6.32	6.30	6.31	0.03	26.23	29.11	26.20	1.52	1700.0	1.32	1.16	1.15	1.16	1.17
1762.5	6.32	6.31	6.29	6.30	0.02	26.97	31.11	26.83	1.50	1762.5	1.21	1.10	1.10	1.11	1.11
1825.0	6.32	6.30	6.29	6.30	0.03	27.10	33.40	26.88	1.59	1825.0	1.17	1.09	1.08	1.09	1.10
1887.5	6.25	6.24	6.23	6.22	0.03	26.81	36.21	26.48	1.71	1887.5	1.12	1.10	1.11	1.12	1.12
1950.0	6.29	6.29	6.28	6.26	0.03	26.41	39.77	26.08	1.74	1950.0	1.09	1.07	1.08	1.10	1.09
2012.5	6.31	6.31	6.28	6.27	0.05	25.85	42.45	25.60	1.86	2012.5	1.09	1.02	1.04	1.05	1.04
2075.0	6.28	6.28	6.25	6.26	0.03	25.41	40.98	25.16	1.82	2075.0	1.16	1.05	1.07	1.09	1.08
2137.5	6.33	6.34	6.32	6.30	0.04	25.08	37.87	24.86	1.79	2137.5	1.18	1.05	1.07	1.09	1.07
2200.0	6.37	6.37	6.34	6.34	0.03	24.84	35.39	24.69	1.83	2200.0	1.18	1.06	1.08	1.09	1.07
2262.5	6.31	6.33	6.29	6.28	0.05	24.67	33.41	24.53	1.94	2262.5	1.16	1.04	1.05	1.07	1.05
2325.0	6.33	6.36	6.33	6.31	0.05	24.56	31.97	24.50	2.02	2325.0	1.17	1.07	1.08	1.10	1.08
2387.5	6.34	6.37	6.34	6.31	0.06	24.51	30.83	24.46	1.99	2387.5	1.14	1.07	1.08	1.10	1.08
2450.0	6.32	6.34	6.30	6.29	0.05	24.41	29.95	24.35	2.05	2450.0	1.06	1.08	1.07	1.08	1.07
2512.5	6.29	6.31	6.29	6.26	0.06	24.30	29.31	24.29	2.09	2512.5	1.07	1.04	1.03	1.05	1.04
2575.0	6.35	6.38	6.33	6.31	0.07	24.22	28.84	24.18	2.16	2575.0	1.03	1.07	1.06	1.07	1.07
2637.5	6.39	6.43	6.37	6.36	0.07	24.12	28.42	24.03	2.14	2637.5	1.14	1.13	1.11	1.10	1.11
2700.0	6.27	6.30	6.29	6.27	0.03	24.00	28.16	23.93	2.16	2700.0	1.16	1.08	1.07	1.05	1.06
2762.5	6.34	6.39	6.35	6.32	0.07	24.11	28.06	23.97	2.12	2762.5	1.17	1.07	1.05	1.06	1.07
2825.0	6.52	6.58	6.53	6.50	0.08	24.39	28.08	24.21	2.18	2825.0	1.28	1.15	1.12	1.13	1.14
2887.5	6.36	6.38	6.37	6.34	0.04	24.57	27.97	24.36	2.38	2887.5	1.27	1.12	1.11	1.08	1.10
2950.0	6.27	6.34	6.32	6.25	0.09	25.07	28.09	24.77	2.20	2950.0	1.20	1.04	1.04	1.03	1.04
3012.5	6.62	6.69	6.64	6.58	0.11	26.05	28.54	25.65	2.40	3012.5	1.29	1.11	1.08	1.10	1.12
3075.0	6.38	6.43	6.40	6.37	0.07	26.67	28.63	26.21	2.56	3075.0	1.21	1.08	1.09	1.06	1.07
3137.5	6.28	6.35	6.30	6.24	0.11	27.49	28.97	26.88	2.58	3137.5	1.10	1.07	1.12	1.06	1.04
3200.0	6.53	6.63	6.53	6.47	0.16	28.45	29.64	27.75	2.55	3200.0	1.13	1.02	1.05	1.01	1.03
3262.5	6.37	6.44	6.38	6.34	0.10	28.51	29.94	27.81	2.67	3262.5	1.06	1.10	1.15	1.10	1.08
3325.0	6.26	6.35	6.28	6.22	0.13	28.27	30.44	27.58	2.67	3325.0	1.06	1.15	1.21	1.15	1.12
3387.5	6.51	6.65	6.51	6.43	0.22	27.94	31.32	27.34	2.65	3387.5	1.08	1.11	1.17	1.11	1.08
3450.0	6.40	6.49	6.42	6.33	0.16	27.04	31.63	26.53	2.66	3450.0	1.12	1.16	1.22	1.16	1.13
3512.5	6.26	6.35	6.26	6.20	0.15	26.26	31.85	25.81	2.71	3512.5	1.20	1.22	1.28	1.23	1.20
3575.0	6.59	6.74	6.61	6.50	0.24	26.13	32.49	25.69	2.63	3575.0	1.23	1.20	1.26	1.21	1.18
3637.5	6.54	6.66	6.55	6.45	0.21	25.78	32.32	25.36	2.68	3637.5	1.20	1.18	1.24	1.20	1.17
3700.0	6.30	6.38	6.30	6.23	0.16	25.50	31.70	25.08	2.61	3700.0	1.21	1.21	1.26	1.24	1.21
3762.5	6.60	6.74	6.61	6.50	0.23	26.15	31.60	25.67	2.81	3762.5	1.26	1.23	1.28	1.26	1.23
3825.0	6.61	6.75	6.66	6.53	0.23	26.74	30.94	26.26	2.78	3825.0	1.17	1.12	1.17	1.16	1.13
3887.5	6.42	6.50	6.43	6.34	0.16	27.26	29.70	26.73	2.65	3887.5	1.13	1.18	1.20	1.23	1.21
3950.0	6.44	6.53	6.43	6.32	0.21	28.59	29.08	28.03	2.91	3950.0	1.19	1.17	1.20	1.22	1.19
4012.5	6.66	6.79	6.70	6.59	0.20	30.24	28.50	29.66	3.11	4012.5	1.19	1.06	1.09	1.12	1.10
4075.0	6.62	6.71	6.66	6.55	0.16	31.61	27.40	31.08	2.59	4075.0	1.11	1.15	1.14	1.20	1.19
4137.5	6.28	6.37	6.25	6.15	0.22	32.92	26.64	32.59	3.12	4137.5	1.18	1.13	1.13	1.19	1.17
4200.0	6.59	6.73	6.59	6.49	0.24	33.43	26.18	33.52	3.46	4200.0	1.25	1.09	1.07	1.11	1.10

¹ Total Loss = Insertion Loss+ 6dB Splitter Loss

4 Way-0° Power Splitter/Combiner

ZB4PD-42+

Typical Performance Curves



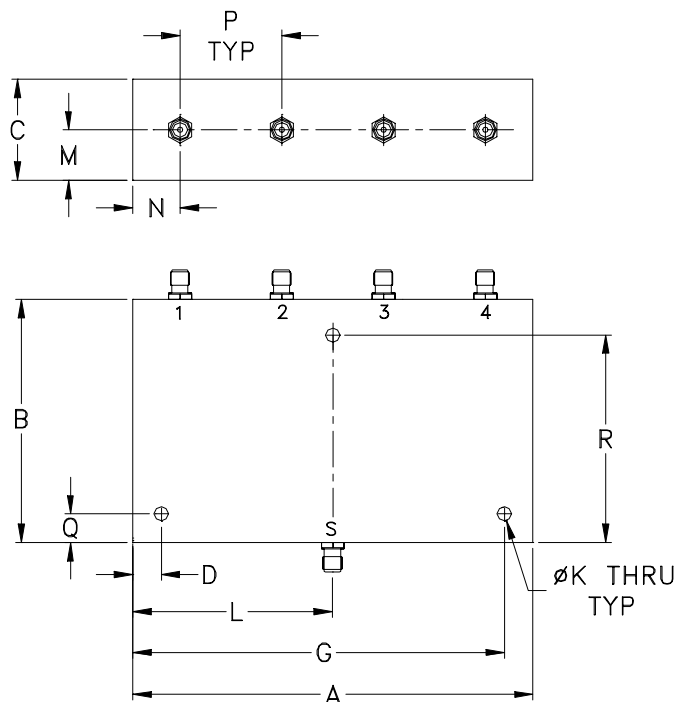
REV. X2
ZB4PD-42+
100627
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Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
Z54	3.50 (88.90)	2.13 (54.10)	.88 (22.35)	.250 (6.35)	--	--	3.250 (82.55)	--	--	.125 (3.17)	1.750 (44.45)	.44 (11.18)	.415 (10.54)

CASE#	P	Q	R	WT.GRAMS
Z54	.89 (22.61)	.250 (6.35)	1.813 (46.05)	250

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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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