

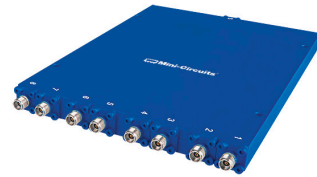
DC Pass, High Power

Power Splitter/Combiner ZC8PD-K5R44W+

8 Way-0° 50Ω 500 to 40000 MHz

The Big Deal

- Ultra wideband, 0.5 to 40 GHz
- High Isolation, 35 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.18 dB typ.



CASE STYLE: UU2415-1

Product Overview

Mini-Circuits' ZC8PD-K5R44W+ is a super wideband 8-way 0° splitter/combiner providing coverage from 0.5 to 40 GHz, supporting a wide range of applications including 5G, L-Band, S-band, C-band, X-band, Ka-band, instrumentation and many more. This model provides 20W power handling as a splitter and very low insertion loss across the entire operating frequency range, minimizing power dissipation and delivering excellent signal power transmission from input to output. The ZC8PD-K5R44W+ comes housed in a case measuring 4.64 x 6.37 x 0.5" with super 2.92mm connectors.

Key Features

Feature	Advantages
Ultra-wideband, 0.5 to 40 GHz	Extremely wide frequency range supports many broadband applications in a single model.
High isolation, 35 dB typ.	Minimizes interference between ports.
High power handling: <ul style="list-style-type: none">• 20W as a splitter at 25°C• 3.2W as a combiner	The ZC8PD-K5R44W+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.18 dB	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 447mA	Supports applications where DC power is needed through the RF line.

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



DC Pass, High Power Power Splitter/Combiner

ZC8PD-K5R44W+

8 Way-0° 50Ω 500 to 40000 MHz

Maximum Ratings

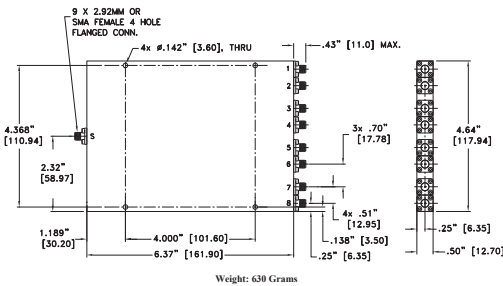
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.
Internal Dissipation	3.2W max.
DC Current	447 mA

Permanent damage may occur if any of these limits are exceeded.
* Derate linearly to 10W at 100°C

Coaxial Connections

Sum Port	S
Port 1,2,3,4,5,6,7,8	1,2,3,4,5,6,7,8

Outline Drawing

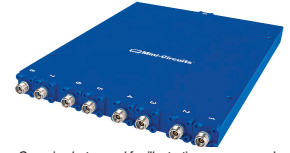


Features

- Ultra wideband, 500 - 40000 MHz
- Low amplitude unbalance, 0.18 dB typ.
- Excellent VSWR, 1.13:1 typ.
- High isolation, 35 dB typ.

Applications

- Fixed satellite
- 5G
- Mobile
- Space research



Generic photo used for illustration purposes only

CASE STYLE: UU2415-1

Connectors Model
2.92mm-Fem ZC8PD-K5R44W+

+RoHS Compliant

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

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		500		40000	MHz
Insertion Loss Above 9.0 dB	500-8000		1.9	3.6	
	8000-18000		4.1	6.2	dB
	18000-26500		6.2	8.2	
Isolation	500-8000	15	30		dB
	8000-40000	18	35		
Phase Unbalance (±) ¹	500-8000		0.9	3	Degree
	8000-18000		1.9	4	
	18000-26500		3.2	6	
Amplitude Unbalance (±) ¹	500-18000		0.15	0.4	
	18000-26500		0.24	0.5	dB
	26500-40000		0.27	0.6	
VSWR (Port S)	500-8000		1.13	1.7	
	8000-18000		1.11	1.6	:1
	18000-26500		1.13	1.7	
VSWR (Port 1-8)	500-8000		1.11	1.7	
	8000-18000		1.10	1.5	:1
	18000-26500		1.14	1.6	
	26500-40000		1.15	1.8	

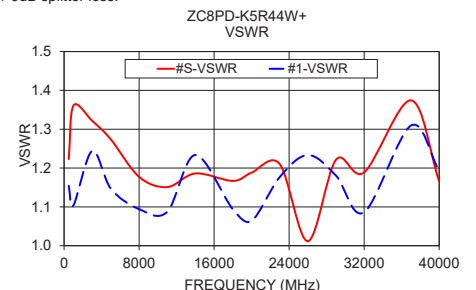
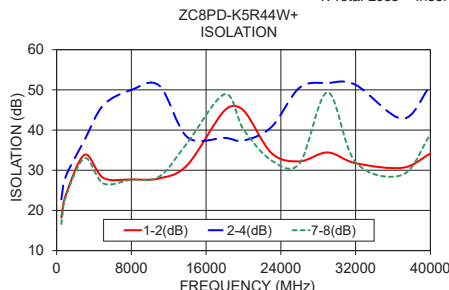
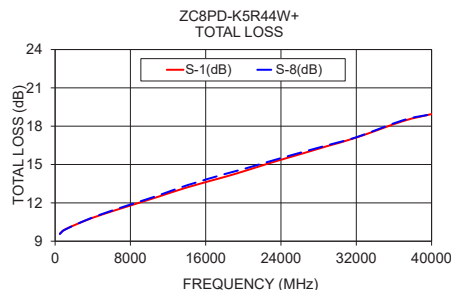
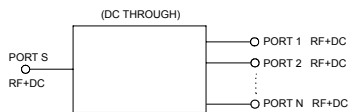
1. With reference to average

Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)						Amp. Unbal. (dB)	Isolation (dB)				Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 8
	S-1	S-2	S-3	S-4	S-6	S-8		1-2	2-4	5-7	7-8				
500	9.59	9.58	9.55	9.56	9.54	9.57	0.06	18.19	22.75	22.29	16.62	0.75	1.22	1.15	1.15
1000	9.90	9.89	9.86	9.86	9.85	9.89	0.06	23.93	28.56	28.71	23.48	1.02	1.36	1.10	1.11
3000	10.55	10.53	10.53	10.53	10.52	10.56	0.09	33.86	37.57	37.11	33.01	1.03	1.32	1.24	1.25
5000	11.09	11.10	11.08	11.09	11.07	11.13	0.11	28.08	46.17	45.23	26.71	1.33	1.27	1.15	1.12
8000	11.79	11.84	11.80	11.83	11.79	11.87	0.15	27.71	49.99	55.41	27.65	1.74	1.18	1.09	1.12
11000	12.49	12.56	12.49	12.55	12.48	12.59	0.18	27.98	51.03	52.50	28.43	2.36	1.15	1.09	1.08
14000	13.21	13.29	13.25	13.27	13.20	13.37	0.26	31.32	38.21	37.36	36.86	2.70	1.19	1.23	1.16
18000	14.03	14.11	14.06	14.12	14.03	14.25	0.32	44.95	38.04	38.74	48.93	3.20	1.17	1.09	1.02
20000	14.46	14.56	14.52	14.60	14.48	14.64	0.26	44.90	37.37	39.01	40.17	3.70	1.19	1.06	1.10
23000	15.16	15.23	15.24	15.29	15.24	15.29	0.18	34.26	40.77	44.07	32.43	3.77	1.21	1.18	1.17
26000	15.80	15.86	15.89	15.94	15.88	15.92	0.20	32.21	50.54	54.67	31.66	4.75	1.01	1.23	1.19
29000	16.46	16.50	16.52	16.57	16.51	16.52	0.22	34.43	51.70	46.43	49.39	5.61	1.22	1.18	1.14
32000	17.11	17.14	17.14	17.24	17.14	17.13	0.26	31.75	51.25	59.32	31.97	6.35	1.19	1.09	1.06
37000	18.41	18.40	18.44	18.51	18.47	18.47	0.26	30.61	42.83	41.46	28.84	6.77	1.37	1.31	1.22
40000	18.95	18.87	18.98	19.03	18.96	18.94	0.25	34.14	51.01	49.99	38.91	7.60	1.17	1.19	1.12

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

Electrical Schematic



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