

DC Pass, High Power

# Power Splitter/Combiner

ZC8PD-K0644+

8 Way-0° 50Ω 6000 to 40000 MHz

## The Big Deal

- Ultra wideband, 6 to 40 GHz
- Low insertion loss, 2.0 dB typ.
- High Isolation, 28 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.12 dB typ.



CASE STYLE: UU2415-4

## Product Overview

Mini-Circuits' ZC8PD-K0644+ is a super wideband 8-way 0° splitter/combiner providing coverage from 6 to 40 GHz, supporting a wide range of applications including 5G, KU-band, K-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-K0644+ comes housed in a case measuring 1.93 x 4.09 x 0.5" with 2.92mm female connectors.

## Key Features

Feature	Advantages
Ultra-wideband, 6 to 40 GHz	Extremely wide frequency range supports many broadband applications in a single model.
Low insertion loss, 2.0 dB typ.	The combination of 20W power handling and low insertion loss makes this model a suitable candidate for distributing signals while maintaining excellent transmission of signal power.
High isolation, 28 dB typ.	Minimizes interference between ports.
High power handling: <ul style="list-style-type: none"><li>• 20W as a splitter at 25°C</li><li>• 3.2W as a combiner</li></ul>	The ZC8PD-K0644+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.12 dB	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 405mA	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](http://www.minicircuits.com/MCLStore/terms.jsp)



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## ZC8PD-K0644+

8 Way-0° 50Ω 6000 to 40000 MHz

### Maximum Ratings

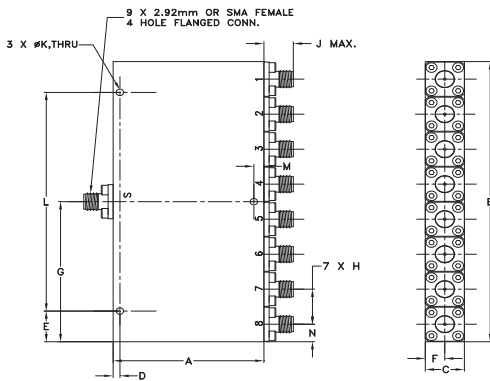
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.
Internal Dissipation	3.2W max.
DC Current	405 mA

Permanent damage may occur if any of these limits are exceeded.  
\* Derate linearly to 8.2W 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

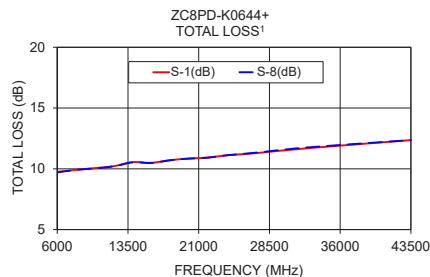
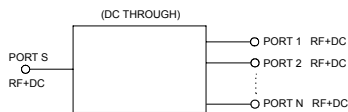
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
1.93	4.09	.50	0.087	.449	.25	2.05
49.02	103.89	12.70	2.21	11.40	6.35	52.07
H	J	K	L	M	N	wt
.51	.43	.094	3.197	.130	.26	grams
12.95	10.92	2.39	81.20	3.30	6.60	230

### Electrical Schematic



### Features

- Super wideband, 6000 - 40000 MHz
- Low insertion loss, 2.0 dB typ.
- Low amplitude unbalance, 0.12 dB typ.
- Excellent VSWR, 1.12:1 typ.
- High isolation, 28 dB typ.

### Applications

- Fixed satellite
- 5G
- Mobile
- Space research



Generic photo used for illustration purposes only

CASE STYLE: UU2415-4

Connectors Model  
2.92mm-Fem ZC8PD-K0644+

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

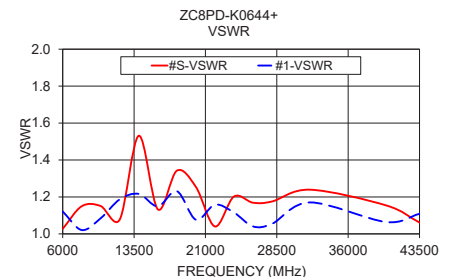
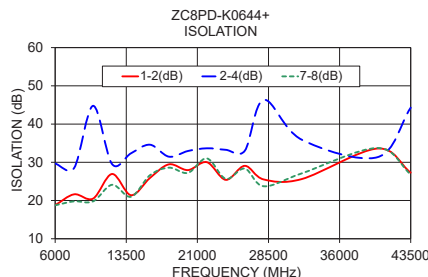
### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		6000		40000	MHz
Insertion Loss Above 9.0 dB	6000-18000		1.3	2.2	
	18000-26500		2.0	2.8	dB
	26500-40000		2.8	3.6	
Phase Unbalance	6000-18000		1.3	8	Degree
	18000-26500		2.2	11	
	26500-40000		3.4	16	
Amplitude Unbalance	6000-18000		0.11	0.5	dB
	18000-26500		0.12	0.7	
	26500-40000		0.16	0.8	
Isolation	6000-18000	15	26		dB
	18000-26500	18	28		
	26500-40000	18	30		
VSWR (Port S)	6000-18000		1.11	1.6	:1
	18000-26500		1.12	1.6	
	26500-40000		1.1	1.7	
VSWR (Port 1-8)	6000-18000		1.17	1.7	:1
	18000-26500		1.16	1.6	
	26500-40000		1.15	1.6	

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (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				
6000	9.74	9.77	9.74	9.73	9.81	9.71	0.10	18.78	29.67	30.29	18.75	1.43	1.03	1.12	1.17
8000	9.92	9.93	9.89	9.87	10.00	9.91	0.13	21.62	28.51	28.92	19.79	1.78	1.15	1.02	1.06
10000	10.06	10.07	10.05	10.06	10.13	10.04	0.09	20.51	44.77	37.38	19.78	1.89	1.15	1.09	1.08
12000	10.21	10.22	10.15	10.17	10.24	10.20	0.08	26.94	29.53	28.37	24.12	2.11	1.08	1.19	1.24
14000	10.55	10.55	10.55	10.52	10.51	10.53	0.08	21.39	32.35	31.53	20.97	2.51	1.53	1.22	1.21
16000	10.50	10.50	10.43	10.43	10.47	10.48	0.08	25.91	34.60	33.75	26.62	3.12	1.13	1.15	1.15
18000	10.71	10.71	10.67	10.67	10.68	10.71	0.06	29.46	31.47	31.33	28.60	3.64	1.34	1.23	1.23
20000	10.84	10.84	10.80	10.76	10.80	10.85	0.09	27.96	32.95	33.15	27.23	4.10	1.25	1.08	1.06
22000	10.93	10.92	10.89	10.86	10.87	10.92	0.08	30.03	33.66	32.19	31.01	4.58	1.04	1.16	1.19
24000	11.12	11.10	11.03	11.01	11.04	11.12	0.11	25.41	33.26	32.48	25.67	5.40	1.20	1.12	1.13
26000	11.22	11.21	11.19	11.12	11.13	11.25	0.13	29.07	33.02	32.32	28.35	5.66	1.17	1.04	1.06
28000	11.36	11.35	11.32	11.28	11.30	11.40	0.15	25.51	46.33	54.03	23.73	6.36	1.18	1.05	1.02
32000	11.65	11.63	11.64	11.57	11.60	11.73	0.17	25.61	35.92	35.68	27.09	7.38	1.24	1.17	1.19
40000	12.15	12.13	12.11	12.07	12.21	12.17	0.14	33.60	31.34	32.22	33.74	9.77	1.15	1.06	1.03
43500	12.36	12.31	12.29	12.25	12.40	12.36	0.15	27.29	44.30	41.42	26.85	10.18	1.06	1.11	1.07

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



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[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

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