

DC Pass, High Power

# Power Splitter/Combiner

ZC8PD-K1844+

8 Way-0° 50Ω 18000 to 40000 MHz

## The Big Deal

- Ultra wideband, 18 to 40 GHz
- Low insertion loss, 1.8 dB typ.
- High Isolation, 26 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.16 dB typ.



CASE STYLE: UU2415-5

## Product Overview

Mini-Circuits' ZC8PD-K0644+ is a super wideband 8-way 0° splitter/combiner providing coverage from 18 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 1.18 x 4.08 x 0.5" with 2.92mm female connectors.

## Key Features

Feature	Advantages
Ultra-wideband, 18 to 40 GHz	Extremely wide frequency range supports many broadband applications in a single model.
Low insertion loss, 1.8 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, 26 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-06263-S+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.16 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)



# DC Pass, High Power Power Splitter/Combiner

## ZC8PD-K1844+

8 Way-0° 50Ω 18000 to 40000 MHz

### Maximum Ratings

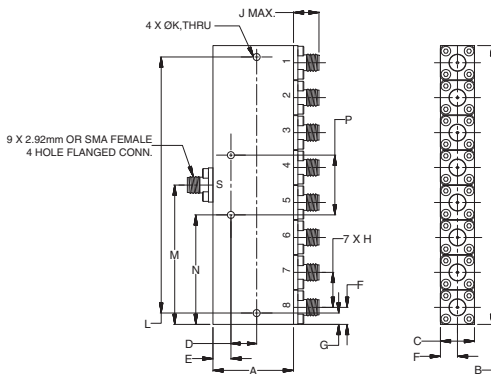
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.
Internal Dissipation	3.2W max.
DC Current	405 mA

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

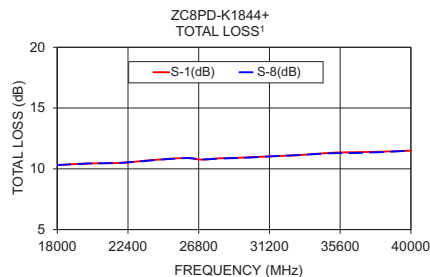
### Outline Drawing



### 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

- Ultra wideband, 18000 - 40000 MHz
- Low amplitude unbalance, 0.16 dB typ.
- Excellent VSWR, 1.33:1 typ.
- High isolation, 26 dB typ.

### Applications

- Fixed satellite
- 5G
- Mobile
- Space research



Generic photo used for illustration purposes only

CASE STYLE: UU2415-5

Connectors	Model
2.92mm-Fem	ZC8PD-K1844+

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

### Electrical Specifications at 25°C

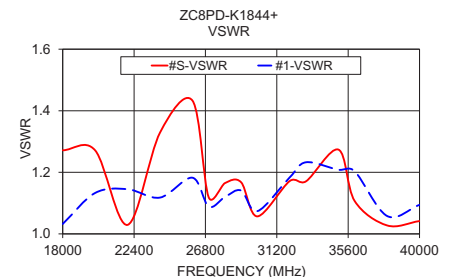
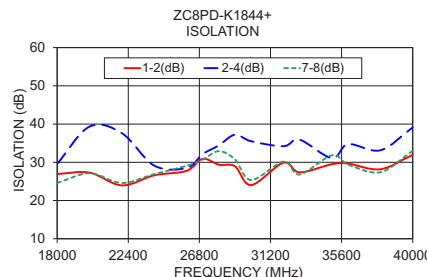
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		18000		40000	MHz
Insertion Loss Above 9.0 dB	18000-26500		1.8	2.4	dB
	26500-40000		2.5	3.2	
Isolation	18000-26500	16	25		dB
	26500-40000	18	26		
Phase Unbalance (±) <sup>1</sup>	18000-26500		3.5	8	Degree
	26500-40000		5.3	10	
Amplitude Unbalance (±) <sup>1</sup>	18000-26500		0.16	0.4	dB
	26500-40000		0.21	0.6	
VSWR (Port S)	18000-26500		1.33	1.7	:1
	26500-40000		1.24	1.7	
VSWR (Port 1-8)	18000-26500		1.25	1.6	:1
	26500-40000		1.24	1.7	

1. With reference to average.

### 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				
18000	10.31	10.33	10.35	10.30	10.29	10.31	0.09	26.93	29.60	27.82	24.59	2.59	1.27	1.03	1.05
20000	10.44	10.47	10.47	10.43	10.43	10.44	0.07	27.30	39.34	31.59	27.13	2.99	1.27	1.13	1.12
22000	10.49	10.50	10.52	10.49	10.49	10.49	0.06	23.95	37.63	37.35	24.58	3.33	1.03	1.15	1.16
24000	10.73	10.72	10.71	10.70	10.70	10.71	0.06	26.59	29.14	31.59	26.91	3.56	1.33	1.12	1.14
26000	10.89	10.88	10.89	10.86	10.86	10.88	0.06	27.75	28.49	28.22	29.06	3.71	1.43	1.18	1.19
27000	10.76	10.75	10.81	10.74	10.74	10.77	0.09	30.91	32.12	33.84	30.70	3.85	1.12	1.09	1.13
28000	10.86	10.85	10.88	10.83	10.82	10.84	0.09	29.37	34.42	34.41	32.92	3.93	1.16	1.12	1.12
29000	10.89	10.86	10.94	10.87	10.87	10.88	0.10	28.95	37.22	46.78	30.76	4.15	1.17	1.14	1.09
30000	10.95	10.94	10.95	10.89	10.91	10.93	0.07	24.04	35.51	41.21	25.35	4.33	1.06	1.07	1.11
32000	11.07	11.06	11.11	11.05	11.06	11.08	0.09	29.90	34.21	38.92	30.18	4.66	1.17	1.18	1.25
33000	11.12	11.11	11.15	11.14	11.09	11.12	0.08	27.36	35.90	35.35	26.80	4.69	1.17	1.23	1.29
35000	11.32	11.29	11.34	11.31	11.26	11.28	0.10	29.51	31.09	31.16	31.84	5.00	1.27	1.21	1.25
36000	11.35	11.29	11.34	11.29	11.25	11.28	0.13	29.66	34.75	39.29	29.42	5.32	1.11	1.20	1.19
38000	11.40	11.37	11.44	11.40	11.35	11.36	0.14	28.18	33.15	36.55	27.41	5.39	1.03	1.06	1.06
40000	11.50	11.49	11.54	11.50	11.49	11.50	0.09	31.95	39.12	40.30	33.02	5.98	1.04	1.09	1.18

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



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