

DC Pass, High Power

# Power Splitter/Combiner ZC4PD-K1844+

4 Way-0° 50Ω 18000 to 40000 MHz

## The Big Deal

- Super wideband, 18 to 40 GHz
- Low insertion loss, 1.2 dB typ.
- High Isolation, 27 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.12 dB typ.



CASE STYLE: UU2413-4

## Product Overview

Mini-Circuits' ZC4PD-K1844+ is a super wideband 4-way 0° splitter/combiner providing coverage from 18 to 40 GHz, supporting a wide range of applications including 5G, 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 ZC4PD-K1844+ comes housed in a case measuring 1.0 x 2.04 x 0.5".

## 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, 1.2 dB typ. at 22 GHz	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, 27 dB typ. at 22 GHz	Minimizes interference between ports.
High power handling: <ul style="list-style-type: none"><li>• 20W as a splitter at 25°C</li><li>• 1.35W as a combiner</li></ul>	The ZC4PD-K1844+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.12 dB at 22 GHz	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

## ZC4PD-K1844+

4 Way-0° 50Ω 18000 to 40000 MHz

### Maximum Ratings

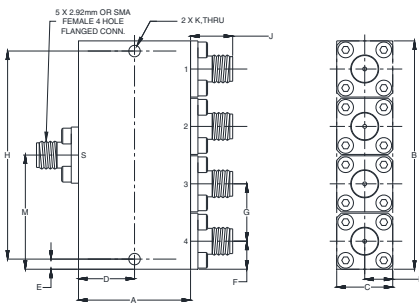
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.
Internal Dissipation	1.35W max.

DC Pass 405mA  
Permanent damage may occur if any of these limits are exceeded.  
\*Derates linearly to 10W at 100°C

### Coaxial Connections

Sum Port	S
Port 1	1
Port 2	2
Port 3	3
Port 4	4

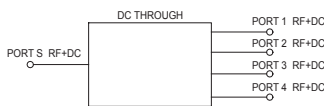
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
1.00	2.04	.50	.500	0.091	.25	.51
25.40	51.82	12.70	12.70	2.31	6.35	13.0
H	J	K	L	M	wt	
1.854	.43	.100	.25	1.02	grams	
47.1	11	2.54	6.35	25.91	80	

### Electrical Schematic



### Features

- Super wideband, 18000 to 40000 MHz
- Low insertion loss, 1.2 dB typ.
- Low amplitude unbalance, 0.12 dB typ.
- Excellent VSWR, 1.15:1 typ.
- High isolation, 27 dB typ.

### Applications

- 5G
- Fixed satellite
- Space research
- Mobile



Generic photo used for illustration purposes only  
CASE STYLE: UU2413-4

Connectors	Model
2.92mm-Fem	ZC4PD-K1844+

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

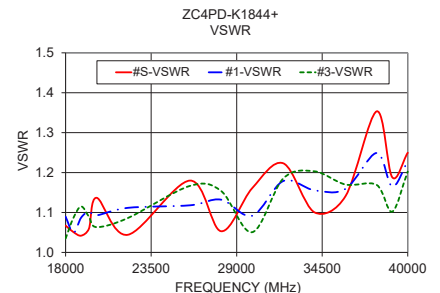
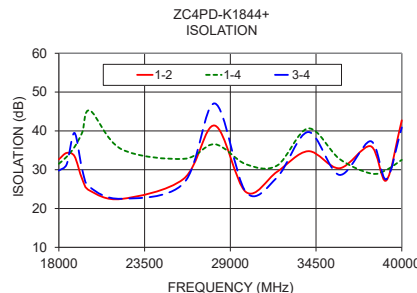
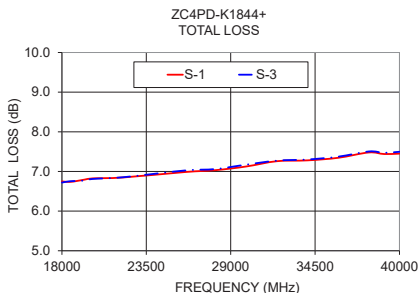
### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency Range</b>		18000		40000	MHz
<b>Insertion Loss Above 6.0 dB</b>	18000 - 26500	—	1.1	1.5	dB
	26500 - 40000	—	1.6	2.2	
<b>Isolation</b>	18000 - 26500	18	24	—	dB
	26500 - 40000	18	27	—	
<b>Phase Unbalance</b>	18000 - 26500		2.5	6	Degree
	26500 - 40000		3.5	8	
<b>Amplitude Unbalance</b>	18000 - 26500		0.13	0.4	dB
	26500 - 40000		0.12	0.5	
<b>VSWR (Port S)</b>	18000 - 26500		1.10	1.5	:1
	26500 - 40000		1.13	1.6	
<b>VSWR (Port 1-4)</b>	18000 - 26500		1.15	1.5	:1
	26500 - 40000		1.14	1.6	

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (dB)				Amp. Unb. (dB)	Isolation (dB)			Phase Unb. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	1-4	3-4						
18000	6.75	6.74	6.72	6.76	0.82	32.67	31.54	29.78	0.93	1.07	1.09	1.08	1.03	1.05
18500	6.74	6.73	6.75	6.80	0.98	34.33	33.33	31.36	1.27	1.05	1.05	1.11	1.09	1.08
19000	6.76	6.76	6.76	6.80	1.21	33.50	35.83	39.48	1.53	1.04	1.09	1.08	1.12	1.10
19500	6.80	6.79	6.77	6.81	1.12	27.57	39.61	30.01	1.16	1.06	1.10	1.03	1.09	1.09
20000	6.83	6.81	6.81	6.85	1.11	24.58	45.23	25.47	1.22	1.14	1.09	1.06	1.06	1.07
22000	6.85	6.86	6.85	6.90	1.00	22.46	35.32	22.52	1.44	1.04	1.11	1.13	1.09	1.09
26000	6.98	7.00	7.02	7.07	1.73	27.63	32.80	26.48	2.39	1.18	1.12	1.12	1.17	1.15
28000	7.03	7.04	7.06	7.10	1.76	41.38	36.56	47.08	2.16	1.05	1.13	1.09	1.15	1.16
30000	7.12	7.14	7.17	7.21	1.92	24.26	31.41	24.26	2.11	1.16	1.09	1.11	1.05	1.04
32000	7.26	7.27	7.27	7.32	1.82	29.47	31.08	28.02	1.78	1.22	1.18	1.19	1.19	1.19
34000	7.28	7.30	7.30	7.35	1.92	34.77	40.64	39.70	1.94	1.10	1.16	1.15	1.20	1.19
36000	7.34	7.37	7.37	7.40	2.15	30.38	32.79	28.66	2.07	1.14	1.16	1.14	1.17	1.15
38000	7.48	7.49	7.50	7.54	2.06	36.05	29.04	37.35	2.15	1.35	1.25	1.21	1.17	1.17
39000	7.44	7.45	7.47	7.49	2.51	27.22	29.94	27.54	2.51	1.19	1.17	1.13	1.10	1.11
40000	7.45	7.47	7.50	7.54	2.33	42.73	32.53	40.89	2.36	1.25	1.23	1.22	1.20	1.21

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