DC Pass, High Power

Power Splitter/Combiner ZC4PD-V18443+

4 Way-0° 50Ω 18000 to 44000 MHz

The Big Deal

- Super wideband, 18 to 44 GHz
- Low insertion loss, 1.2 dB typ.
- High Isolation, 28 dB typ.
- 16W power handling
- Low amplitude unbalance, 0.1 dB typ.

CASE STYLE: UU2413-5

Product Overview

Mini-Circuits' ZC4PD-V18443+ is a super wideband 4-way 0˚ splitter/combiner providing coverage from 18 to 44 GHz, supporting a wide range of applications including 5G, Ka, V and K-Band, instrumentation and many more. This model provides 16W 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-V18443+ comes housed in a case measuring 2.04 x 1 x 0.5".

Key Features

Feature	Advantages
Ultra-wideband, 18 to 44 GHz	Extremely wide frequency range supports many broadband applications in a single model.
Low insertion loss, 1.2 dB typ. at 20 GHz	The combination of 16W 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 20 GHz	Minimizes interference between ports.
High power handling: • 16W as a splitter at 25°C • 0.9W as a combiner	The ZC4PD-V18443+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.1 dB typ.	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 384 mA	Supports applications where DC power is needed through the RF line.

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Power Splitter/Combiner

ZC4PD-V18443+

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Generic photo used for illustration purposes only

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Connectors	Model
2.4mm Fem	ZC4PD-V18443+

+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)	16W* max.
Internal Dissipation	0.9W max.
DC Pass	384mA

Permanent damage may occur if any of these limits are exceeded.
*Derates linearly to 7.6W at 100°C

Coaxial Connections

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

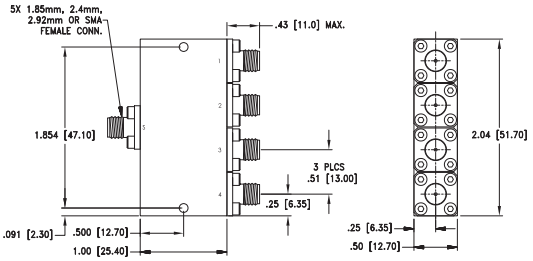
Features

- Super wideband, 18000 to 44000 MHz
- Low insertion loss, 1.2 dB typ.
- Low amplitude unbalance, 0.1 dB typ.
- Excellent VSWR, 1.16:1 typ.
- High isolation, 28 dB typ.

Applications

- 5G
- Fixed satellite
- Space research
- Mobile

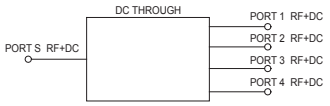
Outline Drawing



Weight: 70 grams;

Dimensions are in inches (mm). Tolerances: 2 Pl.±.03; 3 Pl. ± .015

Electrical Schematic



Electrical Specifications at 25°C

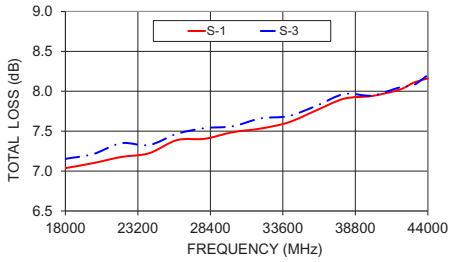
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		18000		44000	MHz
Insertion Loss Above 6.0 dB	18000-26500 26500-44000		1.2 1.7	1.6 2.4	dB
Isolation	18000-26500 26500-44000	18 18	26 30		dB
Phase Unbalance	18000-26500 26500-44000		±2 ±3	±6 ±8	Degree
Amplitude Unbalance	18000-26500 26500-44000		±0.1 ±0.11	±0.4 ±0.5	dB
VSWR (Port S)	18000-26500 26500-44000		1.14 1.14	1.6 1.7	:1
VSWR (Port 1-4)	18000-26500 26500-44000		1.13 1.11	1.6 1.7	:1

Typical Performance Data

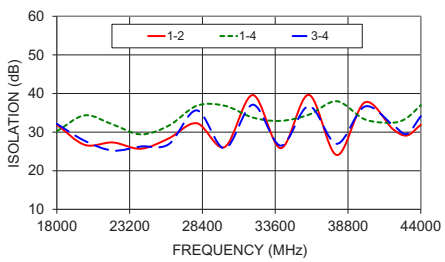
Freq. (MHz)	Total Loss[1] (dB)				Amp. Unb. (dB)	Isolation (dB)			Phase Unb. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	1-4	3-4						
18000	7.04	7.14	7.15	7.20	0.05	31.92	30.23	32.14	0.35	1.18	1.25	1.21	1.18	1.18
20000	7.10	7.19	7.21	7.27	0.03	26.69	34.34	27.73	0.48	1.09	1.09	1.08	1.08	1.09
22000	7.18	7.27	7.35	7.40	0.07	27.32	31.97	25.22	0.47	1.15	1.17	1.12	1.10	1.07
24000	7.22	7.37	7.33	7.39	0.05	25.70	29.42	26.28	0.67	1.04	1.24	1.25	1.22	1.24
26000	7.39	7.49	7.47	7.52	0.06	28.37	31.68	26.86	0.72	1.14	1.31	1.34	1.29	1.29
28000	7.40	7.48	7.54	7.59	0.05	32.29	36.82	35.63	0.43	1.14	1.13	1.11	1.18	1.16
30000	7.49	7.58	7.56	7.61	0.12	26.16	36.83	25.78	0.60	1.20	1.08	1.09	1.12	1.11
32000	7.53	7.63	7.66	7.71	0.04	39.60	33.77	37.10	0.51	1.14	1.09	1.12	1.10	1.10
34000	7.61	7.67	7.69	7.76	0.05	25.84	32.92	26.49	0.75	1.09	1.07	1.12	1.07	1.12
36000	7.76	7.76	7.82	7.88	0.04	39.66	34.51	36.76	0.53	1.17	1.14	1.10	1.06	1.13
38000	7.91	7.91	7.97	8.04	0.09	24.07	38.00	26.97	0.82	1.29	1.26	1.19	1.18	1.20
40000	7.94	7.86	7.95	8.00	0.08	37.70	33.30	36.63	0.91	1.05	1.15	1.10	1.13	1.11
42000	8.02	7.93	8.05	8.13	0.08	30.80	32.45	31.85	0.93	1.10	1.13	1.13	1.10	1.16
43000	8.11	7.99	8.08	8.17	0.09	29.12	33.69	29.53	1.34	1.17	1.06	1.10	1.05	1.13
44000	8.16	8.08	8.20	8.29	0.14	31.90	36.98	34.13	1.32	1.23	1.17	1.24	1.18	1.26

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

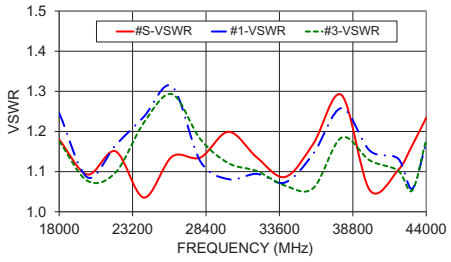
ZC4PD-V18443+
TOTAL LOSS



ZC4PD-V18443+
ISOLATION



ZC4PD-V18443+
VSWR



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.
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