DC Pass, High Power

Power Splitter/Combiner ZC3PD-V24443+

3 Way-0° 50Ω 24 to 44 GHz

The Big Deal

- Super wideband, 24 to 44 GHz
- Low insertion loss, 1.2 dB typ.
- High Isolation, 32 dB typ.
- 9W power handling
- Low amplitude unbalance, 0.25 dB typ.

CASE STYLE: UU2412-3

Product Overview

Mini-Circuits' ZC3PD-V24443+ is a super wideband 3-way 0˚ splitter/combiner providing coverage from 24 to 44 GHz, supporting a wide range of applications including K-Band, instrumentation and many more. This model provides 9W 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 ZC3PD-V24443+ comes housed in a case measuring 1.5 x 1.7 x 0.5" with 2.4mm connectors.

Key Features

Feature	Advantages
Ultra-wideband, 24 to 44 GHz	Extremely wide frequency range supports many broadband applications in a single model.
Low insertion loss, 1.1 dB typ. at 34 GHz	The combination of 9W power handling and low insertion loss makes this model a suitable candidate for distributing signals while maintaining excellent transmission of signal power.
High isolation, 30 dB typ. at 34 GHz	Minimizes interference between ports.
Low amplitude unbalance, 0.2 dB at 34 GHz	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 268mA	Supports applications where DC power is needed through the RF line.

DC Pass

Power Splitter/Combiner

ZC3PD-V24443+

3 Way-0° 50Ω 24 to 44 GHz

Generic photo used for illustration purposes only

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Connectors	Model
2.4mm-Female	ZC3PD-V24443+

+RoHS Compliant

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

Maximum Ratings

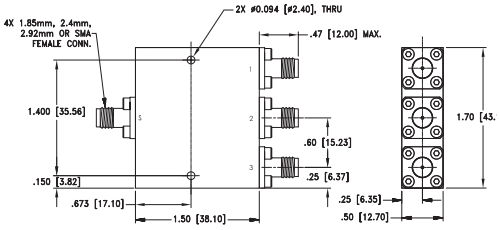
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)*	9W* max.
Internal Dissipation	0.4W max.
DC Current	268 mA

Permanent damage may occur if any of these limits are exceeded.
* Derate linearly to 3.6W at 100°C

Coaxial Connections

SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3

Outline Drawing



Weight: 80 grams;

Dimensions are in inches (mm). Tolerances: 2 Pl.±.03; 3 Pl. ± .01

Features

- Wideband, 24000 to 44000 MHz
- Low insertion loss, 1.2 dB typ.
- Low amplitude unbalance, 0.25 dB typ.
- Excellent VSWR, 1.14 dB typ.
- High Isolation, 32 dB typ.

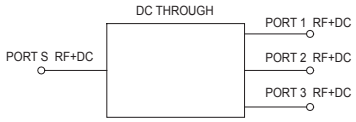
Applications

- Fixed Satellite
- K-band
- Mobile
- Space research
- Test Accessory

Electrical Specifications at 25°C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		24		44	GHz
Insertion Loss Above 4.8 dB	24-44		1.2	2.2	dB
Isolation	24-44	18	32		dB
Phase Unbalance	24-44		3.1	9	Degree
Amplitude Unbalance	24-44		0.25	0.8	dB
VSWR (Port S)	24-44		1.14	1.7	:1
VSWR (Port 1-3)	24-44		1.1	1.7	:1

Electrical Schematic

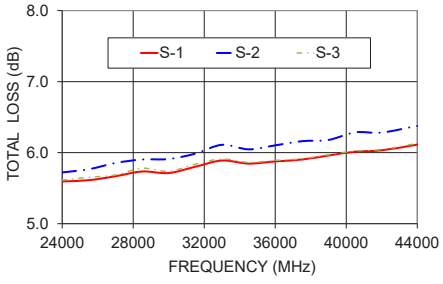


Typical Performance Data

Freq. (MHz)	Total Loss[1] (dB)			Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3
	S-1	S-2	S-3		1-2	1-3	2-3					
24000	5.59	5.72	5.61	0.13	41.93	33.78	43.97	1.13	1.14	1.14	1.14	1.15
25500	5.61	5.77	5.65	0.15	33.21	34.62	30.48	1.09	1.06	1.13	1.16	1.19
27000	5.67	5.85	5.69	0.19	27.29	32.39	26.16	1.25	1.21	1.05	1.06	1.05
28500	5.73	5.90	5.78	0.17	28.62	31.78	28.61	1.40	1.26	1.15	1.24	1.26
30000	5.71	5.91	5.74	0.20	43.87	33.23	47.18	1.65	1.13	1.08	1.13	1.09
31500	5.80	5.99	5.84	0.18	28.40	31.98	27.07	2.04	1.24	1.16	1.16	1.21
33000	5.89	6.11	5.91	0.22	27.04	30.63	26.48	2.40	1.34	1.14	1.15	1.20
34500	5.85	6.05	5.86	0.20	35.06	32.77	36.28	2.84	1.14	1.07	1.15	1.14
36000	5.88	6.10	5.89	0.23	37.61	37.34	34.89	3.44	1.10	1.07	1.16	1.08
37500	5.90	6.16	5.91	0.26	32.17	41.43	30.86	3.85	1.06	1.06	1.17	1.09
39000	5.96	6.18	5.97	0.22	31.56	38.53	30.88	4.51	1.11	1.04	1.06	1.08
40500	6.01	6.29	6.02	0.27	33.48	34.79	34.37	5.32	1.12	1.10	1.24	1.10
42000	6.03	6.28	6.04	0.25	50.25	35.14	41.36	5.76	1.07	1.05	1.12	1.05
44000	6.11	6.38	6.13	0.26	29.88	34.40	28.23	7.20	1.06	1.13	1.20	1.15

1. Total Loss = Insertion Loss + 4.8dB splitter loss.

ZC3PD-V24443+
TOTAL LOSS



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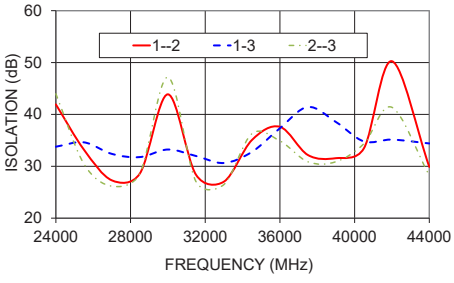
ISOLATION



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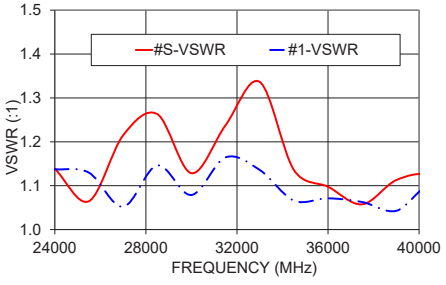
VSWR



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.
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

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