DC Pass, High Power

Power Splitter/Combiner ZC16PD-K0644+

16 Way-0° 50Ω 6000 to 40000 MHz

The Big Deal

- Super wideband, 6 to 40 GHz
- Low insertion loss, 2.2 dB typ.
- High Isolation, 26 dB typ.
- 20W power handling
- Low amplitude unbalance, 0.28 dB typ.



CASE STYLE: UU640-1

Product Overview

Mini-Circuits' ZC16PD-K0644+ is a super wideband 16-way 0˚ splitter/combiner providing coverage from 6 to 40 GHz, supporting a wide range of applications including 5G, Ku-Band, K-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 ZC16PD-K0644+ comes housed in a case measuring 8.27 x 1.75 x 0.5" with 2.92mm connectors.

Key Features

Feature	Advantages
Super wideband, 6 to 40 GHz	Extremely wide frequency range supports many broadband applications in a single model.
Low insertion loss, 2.2 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: • 20W as a splitter at 25°C • 1.35W as a combiner	The ZC16PD-K0644+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.28 dB	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 404mA	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

DC Pass, High Power

Power Splitter/Combiner

ZC16PD-K0644+

16 Way-0° 50Ω 6000 to 40000 MHz



Generic photo used for illustration purposes only

CASE STYLE: UU640-1

Connectors	Model
2.92mm-Fem	ZC16PD-K0644+

+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)	20W* max.
Internal Dissipation	1.35W max.
DC Current	404 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 1-16	1-16

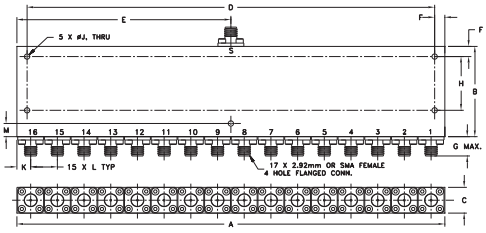
Features

- Super wideband, 6000 - 40000 MHz
- Low insertion loss, 2.2 dB typ.
- Low amplitude unbalance, 0.28 dB typ.
- Excellent VSWR, 1.25:1 typ.
- High isolation, 26 dB typ.

Applications

- Fixed satellite
- 5G
- Mobile
- Space research

Outline Drawing

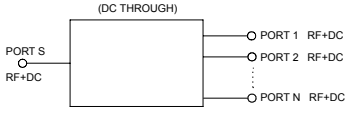


Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
8.27	1.75	.50	7.874	4.13	.197	.43
210	44.5	12.70	200.0	105	5.00	11

H	J	K	L	M	wt
1.043	.10	.27	.52	.256	grams
26.5	2.54	6.86	13.21	6.50	430

Electrical Schematic



Electrical Specifications at 25°C

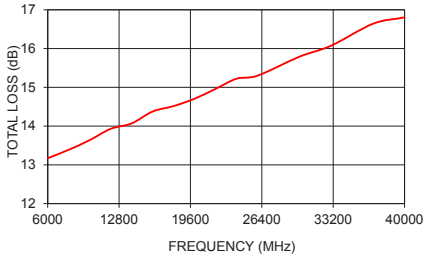
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		6000		40000	MHz
Insertion Loss Above 12.0 dB	6000-18000		2.2	3.4	dB
	18000-26500		3.3	4	
	26500-40000		4.7	5.5	
Isolation	6000-18000	16	22		dB
	18000-26500	18	26		
	26500-40000	18	25		
Phase Unbalance	6000-18000		3.9	8	Degree
	18000-26500		6	10	
	26500-40000		8.7	14	
Amplitude Unbalance	6000-18000		0.21	0.5	dB
	18000-26500		0.28	0.7	
	26500-40000		0.36	0.8	
VSWR (Port S)	6000-18000		1.38	1.6	:1
	18000-26500		1.25	1.6	
	26500-40000		1.31	1.7	
VSWR (Port 1-16)	6000-18000		1.3	1.6	:1
	18000-26500		1.25	1.6	
	26500-40000		1.26	1.7	

Typical Performance Data

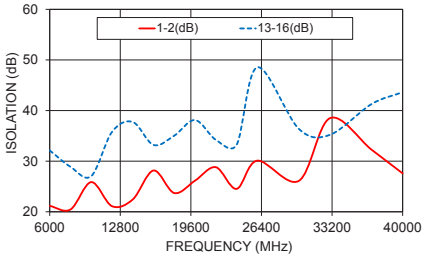
Freq. (MHz)	Total Loss[1] (dB)	Amplitude Unbalance (dB)	Isolation (dB)		Phase Unbalance (deg.)	VSWR S	VSWR 1
	S-1		1-2	13-16			
6000	13.17	0.10	21.16	32.12	1.75	1.12	1.18
8000	13.39	0.10	20.45	28.89	2.19	1.07	1.19
10000	13.64	0.11	25.86	27.04	2.74	1.13	1.03
12000	13.93	0.13	21.11	35.77	3.29	1.33	1.18
14000	14.07	0.10	22.44	37.75	3.56	1.11	1.25
16000	14.38	0.13	28.16	33.21	4.43	1.29	1.26
18000	14.52	0.14	23.70	35.05	4.84	1.16	1.12
20000	14.71	0.14	26.15	38.13	5.46	1.07	1.21
22000	14.96	0.13	28.81	34.23	5.50	1.22	1.19
24000	15.22	0.19	24.53	33.21	6.17	1.32	1.11
26000	15.30	0.18	30.10	48.56	6.76	1.11	1.07
30000	15.79	0.18	26.11	36.39	7.33	1.24	1.12
33000	16.07	0.19	38.50	35.21	8.20	1.23	1.10
37000	16.64	0.25	32.28	41.28	9.32	1.33	1.33
40000	16.80	0.27	27.59	43.63	9.89	1.10	1.10

1. Total Loss = Insertion Loss +12dB splitter loss.

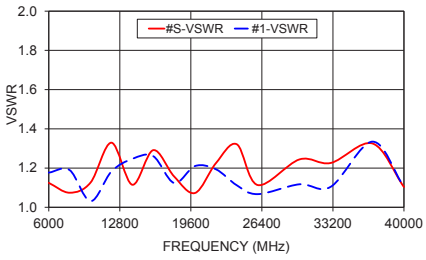
ZC16PD-K0644+
TOTAL LOSS[1]



ZC16PD-K0644+
ISOLATION



ZC16PD-K0644+
VSWR



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