

DC Pass, High Power

# Power Splitter/Combiner

ZC2PD-E18653+

2 Way-0° 50Ω 18000 to 65000 MHz

## The Big Deal

- Ultra wideband, 18 to 65 GHz
- Low insertion loss, 1.2 dB typ.
- High Isolation, 29 dB typ.
- 12W power handling
- Low amplitude unbalance, 0.13 dB typ.



CASE STYLE: UU2624-4

## Product Overview

Mini-Circuits' ZC2PD-E18653+ is an ultra wideband 2-way 0° splitter/combiner providing coverage from 18 to 65 GHz, supporting a wide range of applications including 5G, Ku, Ka, V and K-Band, instrumentation and many more. This model provides 12W 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 ZC2PD-E18653+ comes housed in a case measuring 1.06 x 0.85 x 0.5".

## Key Features

Feature	Advantages
Ultra-wideband, 18 to 65 GHz	Extremely wide frequency range supports many broadband applications in a single model. Ideal for use in wideband instrumentation
Low insertion loss, 1.2 dB typ. at 45 GHz	The combination of 12W power handling and low insertion loss makes this model a suitable candidate for distributing signals while maintaining excellent transmission of signal power.
High isolation, 29 dB typ. at 45 GHz	Minimizes interference between ports.
High power handling: • 12W as a splitter at 25°C	The ZC2PD-E18653+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.13 dB at 35 GHz	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 321mA	Supports applications where DC power is needed to pass 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)



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## ZC2PD-E18653+

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### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	12W* max.
Internal Dissipation	0.78W max.
DC Current	321mA

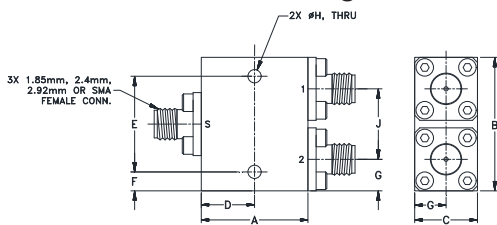
Permanent damage may occur if any of these limits are exceeded.

\* Derate linearly to 5.2W at 100°C

### Coaxial Connections

Sum Port	S
Port 1	1
Port 2	2

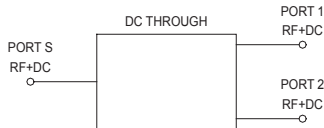
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.85	1.06	.50	.425	.760	.150	.25
21.59	26.92	12.70	10.80	19.30	3.81	6.35
H	J			wt		
.106	.56			grams		35
2.7	14.22					

### Electrical Schematic



### Features

- Ultra wideband, 18000 - 65000 MHz
- Low insertion loss, 1.2 dB typ.
- Low amplitude unbalance, 0.13 dB typ.
- Excellent VSWR, 1.19:1 typ.
- High isolation, 29 dB typ.

### Applications

- 5G
- Fixed satellite
- Space research
- Mobile



Generic photo used for illustration purposes only

CASE STYLE: UU2624-4

Connectors	Model
1.85mm-Fem	ZC2PD-E18653+

+RoHS Compliant

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

### Electrical Specifications at 25°C

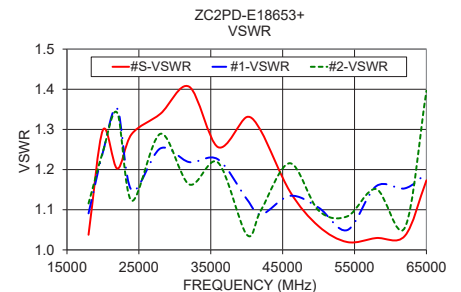
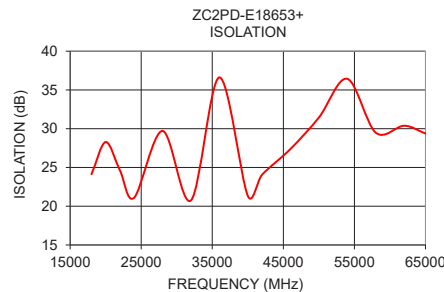
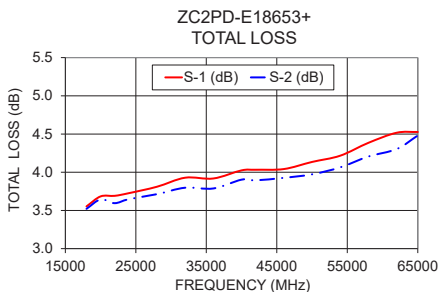
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency Range</b>		18000		65000	MHz
<b>Insertion Loss Above 3.0 dB</b>	18000-40000		0.9	1.7	
	40000-50000		1.2	2.0	dB
<b>Isolation</b>	50000-65000		1.5	2.5	
	18000-40000	16	27		
<b>Phase Unbalance (±)¹</b>	40000-50000	16	29		dB
	50000-65000	16	30		Degree
<b>Amplitude Unbalance (±)¹</b>	18000-40000		1.7	6	
	40000-50000		2.5	8	dB
<b>VSWR (Port S)</b>	50000-65000		3.6	9	Degree
	18000-40000		0.12	0.6	
<b>VSWR (Port 1-2)</b>	40000-50000		0.13	0.6	dB
	50000-65000		0.20	0.8	
<b>VSWR (Port S)</b>	18000-40000		1.22	1.7	:1
	40000-50000		1.19	1.8	
<b>VSWR (Port 1-2)</b>	50000-65000		1.16	1.9	
	18000-40000		1.20	1.7	:1
<b>VSWR (Port 1-2)</b>	40000-50000		1.19	1.8	:1
	50000-65000		1.22	1.9	

1. With reference to average

### Typical Performance Data

Frequency (MHz)	Total Loss¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
18000	3.55	3.52	0.03	24.12	0.94	1.04	1.09	1.12
20000	3.68	3.64	0.04	28.28	1.24	1.30	1.24	1.24
22000	3.69	3.60	0.10	24.63	1.32	1.20	1.35	1.34
24000	3.73	3.65	0.08	21.09	1.39	1.29	1.15	1.12
28000	3.81	3.71	0.10	29.71	1.52	1.34	1.25	1.29
32000	3.93	3.80	0.13	20.75	1.62	1.41	1.22	1.16
36000	3.92	3.79	0.13	36.62	1.80	1.26	1.23	1.22
40000	4.02	3.90	0.12	21.34	2.06	1.33	1.13	1.04
42000	4.03	3.89	0.14	24.05	2.05	1.30	1.09	1.10
46000	4.04	3.93	0.11	27.38	2.56	1.15	1.13	1.22
50000	4.13	3.97	0.16	31.43	2.56	1.06	1.11	1.10
54000	4.22	4.06	0.15	36.43	2.81	1.02	1.05	1.08
58000	4.39	4.21	0.18	29.49	2.77	1.03	1.16	1.15
62000	4.52	4.30	0.21	30.38	3.31	1.03	1.15	1.06
65000	4.53	4.48	0.05	29.38	3.92	1.17	1.19	1.40

1. Total Loss = Insertion Loss + 3dB splitter theoretical loss.



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