

DC Pass, High Power

# Power Splitter/Combiner ZC2PD-E1653+

2 Way-0° 50Ω 1000 to 65000 MHz

## The Big Deal

- Super wideband, 1 to 65 GHz
- Low insertion loss, 1.8 dB typ.
- High Isolation, 32 dB typ.
- 16W power handling
- Low amplitude unbalance, 0.1 dB typ.



CASE STYLE: UU2624-2

## Product Overview

Mini-Circuits' ZC2PD-E1653+ is a super wideband 2-way 0° splitter/combiner providing coverage from 1 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-E1653+ comes housed in a case measuring 3.75 x 1.02 x 0.5".

## Key Features

Feature	Advantages
Ultra-wideband, 1 to 65 GHz	Extremely wide frequency range supports many broadband applications in a single model. Ideal for use in wideband instrumentation
Low insertion loss, 1.8 dB typ. at 28 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, 32 dB typ. at 24 GHz	Minimizes interference between ports.
High power handling: <ul style="list-style-type: none"><li>• 12W as a splitter at 25°C</li><li>• 0.78W as a combiner</li></ul>	The ZC2PD-E1653+ is suitable for systems with a wide range of power requirements.
Low amplitude unbalance, 0.1 dB at 13 GHz	Produces nearly equal output signals, ideal for parallel path and multichannel systems.
DC Passing, 352mA	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)



# DC Pass, High Power Power Splitter/Combiner

## ZC2PD-E1653+

2 Way-0° 50Ω 1000 to 65000 MHz

### Maximum Ratings

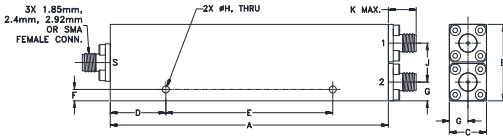
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	12W* max.
Internal Dissipation	0.78W max.
DC Current	352mA

Permanent damage may occur if any of these limits are exceeded.  
\* Derate linearly to 6.2W at 100°C

### Coaxial Connections

Sum Port	S
Port 1	1
Port 2	2

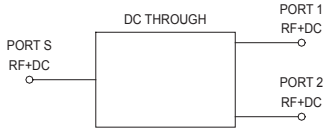
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	
3.75	1.02	.50	.750	2.250	.151	.25	
95.25	25.91	12.70	19.05	57.15	3.84	6.35	
H	J	K					wt
.094	.52	.43					grams
2.39	13.21	10.92					100

### Electrical Schematic



### Features

- Super wideband, 1000 - 65000 MHz
- Low insertion loss, 1.8 dB typ.
- Low amplitude unbalance, 0.1 dB typ.
- Excellent VSWR, 1.12:1 typ.
- High isolation, 32 dB typ.

### Applications

- 5G
- Fixed satellite
- Space research
- Mobile

### Electrical Specifications at 25°C

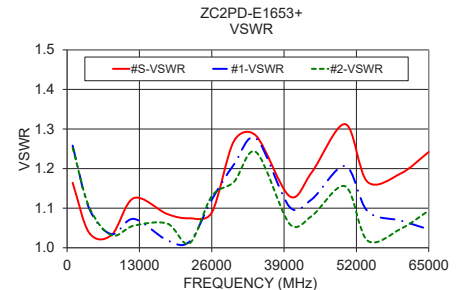
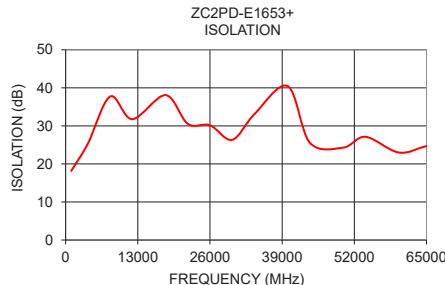
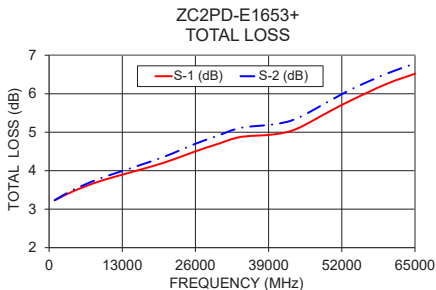
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency Range</b>		1000		65000	MHz
<b>Insertion Loss Above 3.0 dB</b>	1000-18000		0.8	2.2	dB
	18000-40000		1.8	3.2	
	40000-50000		2.6	4	
	50000-65000		3.3	5.4	
<b>Isolation</b>	1000-18000	16	31		dB
	18000-40000	16	32		
	40000-50000	16	28		
	50000-65000	16	28		
<b>Phase Unbalance (±)</b>	1000-18000		0.6	4	Degree
	18000-40000		1.3	5	
	40000-50000		1.9	7	
	50000-65000		2.4	9	
<b>Amplitude Unbalance (±)</b>	1000-18000		0.04	0.3	dB
	18000-40000		0.10	0.4	
	40000-50000		0.14	0.6	
	50000-65000		0.20	0.8	
<b>VSWR (Port S)</b>	1000-18000		1.07	1.6	:1
	18000-40000		1.12	1.7	
	40000-50000		1.17	1.8	
	50000-65000		1.13	1.9	
<b>VSWR (Port 1-2)</b>	1000-18000		1.08	1.6	:1
	18000-40000		1.12	1.7	
	40000-50000		1.13	1.8	
	50000-65000		1.08	1.9	

1. With reference to average.

### Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
1000	3.23	3.23	0.01	18.17	0.20	1.16	1.26	1.25
4000	3.45	3.48	0.03	25.35	0.59	1.04	1.10	1.10
8000	3.68	3.74	0.06	37.72	0.93	1.03	1.03	1.03
12000	3.86	3.94	0.09	31.77	1.25	1.13	1.07	1.06
18000	4.10	4.24	0.13	38.09	1.60	1.09	1.02	1.06
22000	4.29	4.45	0.17	30.53	1.91	1.07	1.02	1.01
26000	4.50	4.70	0.20	30.17	2.01	1.09	1.12	1.13
30000	4.70	4.91	0.21	26.34	2.19	1.27	1.21	1.17
34000	4.88	5.11	0.24	33.09	2.30	1.28	1.28	1.24
40000	4.94	5.21	0.26	40.46	2.47	1.13	1.10	1.06
44000	5.09	5.36	0.27	25.53	2.59	1.19	1.12	1.08
50000	5.55	5.83	0.27	24.30	2.76	1.31	1.21	1.16
54000	5.85	6.14	0.28	27.14	2.86	1.17	1.09	1.02
60000	6.26	6.52	0.26	23.00	2.98	1.19	1.07	1.05
65000	6.52	6.78	0.26	24.72	3.61	1.24	1.05	1.09

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



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CASE STYLE: UU2624-2

Connectors	Model
1.85mm-Fem	ZC2PD-E1653+

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

REV. A  
ECO-004658  
ZC2PD-E1653+  
GY/CP/AM  
210105  
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