

DC Pass

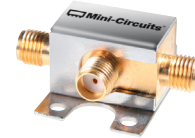
# Power Splitter/Combiner

ZX10-2-852+

2 Way-0° 50Ω 500 to 8500 MHz

## The Big Deal

- Ultra-Wideband, 500 to 8500 MHz
- Good VSWR, 1.4:1 typ.
- Low unbalance, 0.1 dB
- Rugged unibody case



CASE STYLE: FL2227

## Product Overview

Mini-Circuits' ZX10-2-852+ is a coaxial, ultra-wideband 2-way 0° splitter combiner providing RF input power handling up to 2.5W as a splitter for an wide range of applications from 500 to 8500 MHz. The splitter/combiner comes housed in a rugged, compact case with SMA connectors.

## Key Features

Feature	Advantages
Ultra-wideband, 500 to 8500 MHz	ZX10-2-852+ supports bandwidth requirements for a wide variety of applications including broadband applications such as instrumentation and defense.
Good VSWR, 1.4:1	Provides excellent thru-path transmission with minimal signal reflection.
Low amplitude unbalance, 0.1 dB	Produces nearly equal output signals, ideal for parallel path / multichannel systems.
DC passing up to 0.4 A	Supports applications where DC power is needed through the RF line.
Rugged, unibody construction	Mini-Circuits' unibody construction integrates the RF connector into the case body, providing high reliability and excellent survivability in critical applications.

### 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)



# Power Splitter/Combiner

## ZX10-2-852+

2 Way-0° 50Ω 500 to 8500 MHz

### Maximum Ratings

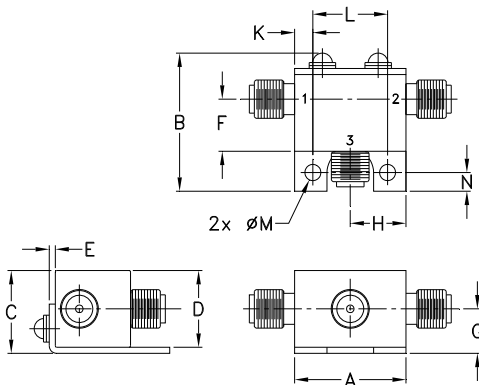
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter) 2.5W <sup>1</sup> max. at 25°C	
Internal Dissipation	1.7W <sup>2</sup> max. at 25°C
DC Current	0.4 A max.

Permanent damage may occur if any of these limits are exceeded.  
 1. Derate linearly to 1.25W at 85°C  
 2. Derate linearly to 1.1W at 85°C

### Coaxial Connections

SUM PORT	S
PORT 1	1
PORT 2	2

### Outline Drawing



### Outline Dimensions (inch/mm)

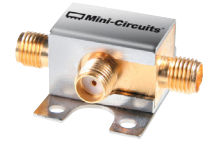
A	B	C	D	E	F	G
.74	.90	.54	.50	.04	.34	.29
18.80	22.86	13.72	12.70	1.02	8.64	7.37
H	J	K	L	M	N	wt
.37	--	.122	.496	.106	.122	grams
9.40	--	3.10	12.60	2.69	3.10	20.0

### Features

- wide bandwidth, 500 to 8500 MHz
- excellent amplitude unbalance, 0.1 dB typ.
- small size
- high ESD level\*
- DC passing
- protected under US patent 6,790,049

### Applications

- WIMAX
- ISM
- instrumentation
- radar
- WLAN
- satellite communications
- LTE



CASE STYLE: FL2227

Connectors	Model
SMA	ZX10-2-852-S+

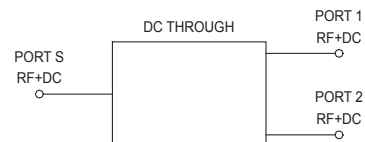
+RoHS Compliant

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</b>		500		8500	MHz
<b>Insertion Loss (above theoretical 3.0 dB)</b>	500 - 3000	—	1.1	1.5	dB
	3000 - 6000	—	1.9	2.2	
	6000 - 8500	—	3.0	3.4	
<b>Isolation</b>	500 - 3000	6.3	9.4	—	dB
	3000 - 6000	16.8	20.6	—	
	6000 - 8500	12.4	18.2	—	
<b>Phase Unbalance</b>	500 - 3000	—	2.0	4	Degree
	3000 - 6000	—	2.0	7	
	6000 - 8500	—	4.0	8	
<b>Amplitude Unbalance</b>	500 - 3000	—	0.1	0.3	dB
	3000 - 6000	—	0.2	0.5	
	6000 - 8500	—	0.3	0.9	
<b>VSWR (Port S)</b>	500 - 3000	—	1.5	—	:1
	3000 - 6000	—	1.3	—	
	6000 - 8500	—	1.5	—	
<b>VSWR (Port 1-2)</b>	500 - 3000	—	1.25	—	:1
	3000 - 6000	—	1.4	—	
	6000 - 8500	—	1.7	—	

### Electrical Schematic



\* ESD rating

Human body model (HBM): Class 2 (1800 to 4000V) in accordance with ANSI / ESD 5.1-2007.  
 Machine model (MM): Class M3 (200 to <400V) in accordance with ANSI / ESD 5.2-2009

### Notes

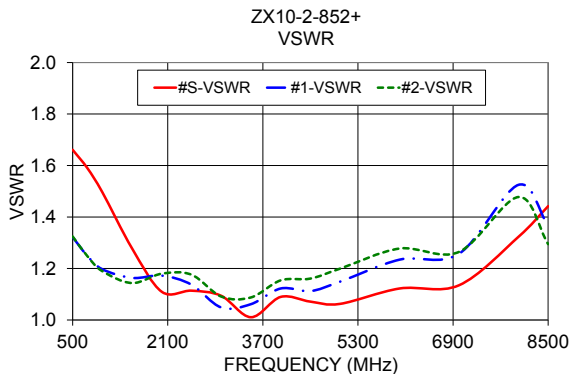
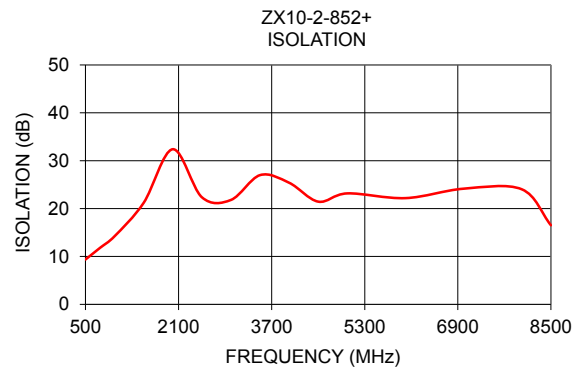
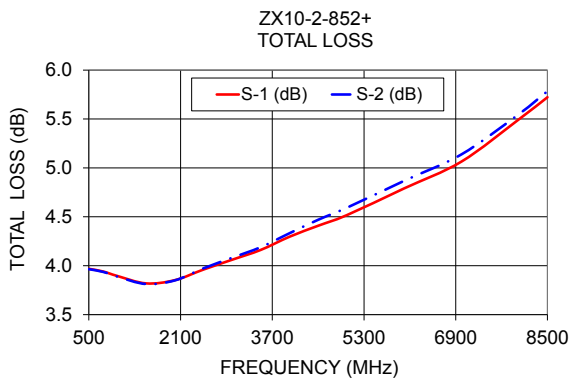
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## Typical Performance Data

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						
500	3.97	3.96	0.00	9.36	0.25	1.66	1.32	1.32
750	3.94	3.94	0.00	11.80	0.36	1.59	1.25	1.25
1000	3.89	3.89	0.01	14.23	0.49	1.50	1.20	1.19
1500	3.82	3.81	0.01	21.20	0.73	1.28	1.16	1.14
2000	3.85	3.85	0.00	32.40	0.95	1.11	1.17	1.18
2500	3.96	3.97	0.01	22.37	1.20	1.11	1.14	1.18
3000	4.06	4.08	0.02	21.80	1.55	1.09	1.05	1.09
3500	4.16	4.19	0.03	26.99	1.84	1.01	1.06	1.09
4000	4.30	4.33	0.04	25.40	2.11	1.09	1.12	1.15
4500	4.41	4.47	0.06	21.45	2.40	1.07	1.11	1.16
5000	4.52	4.59	0.08	23.17	2.83	1.06	1.15	1.20
6000	4.79	4.87	0.08	22.18	3.50	1.12	1.23	1.28
7000	5.06	5.14	0.07	24.16	4.27	1.13	1.26	1.26
8000	5.50	5.55	0.05	24.03	4.54	1.32	1.52	1.48
8500	5.72	5.78	0.06	16.52	4.78	1.44	1.37	1.29

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



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