

DC Pass

# Power Splitter/Combiner

**ZX10-2-852-S+**

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-S+ is a coaxial, ultra-wideband 2-way 0° splitter combiner providing RF input power handling up to 2.5W as a splitter for a 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-S+ 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.  
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ZX10-2-852-S+

2 Way-0° 50Ω 500 to 8500 MHz

## Maximum Ratings

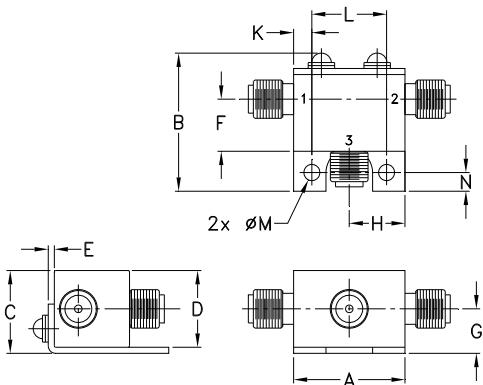
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter) 2.5W <sup>1</sup> max. at 25°C	
Internal Dissipation	1.7W <sup>2</sup> max. at 25°C
DC Current	0.4 A max.

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



Generic photo used for illustration purposes only

CASE STYLE: FL2227

Connectors	Model
SMA	ZX10-2-852-S+

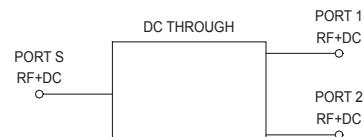
+RoHS Compliant

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

## 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

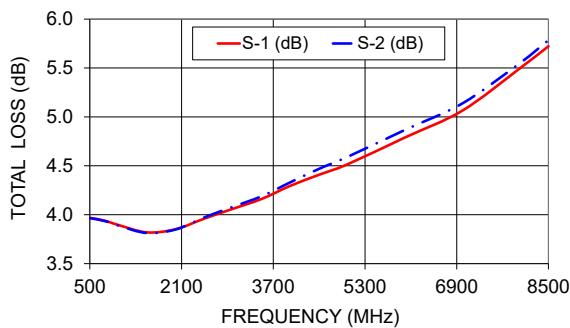
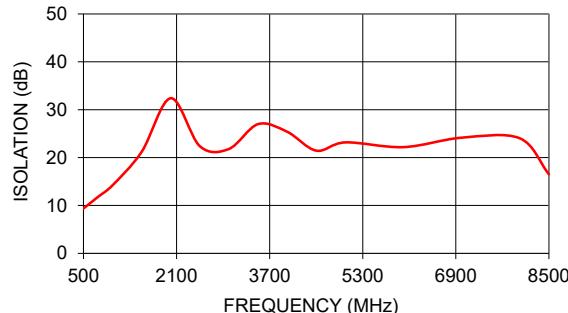
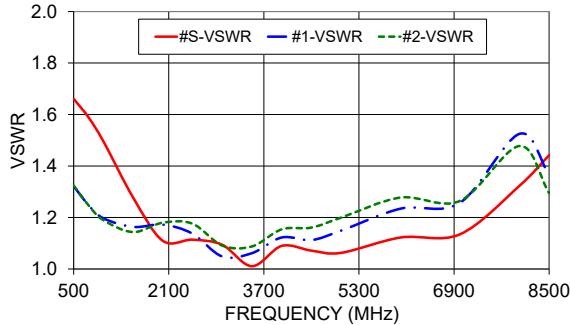
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[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

## 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.

ZX10-2-852-S+  
TOTAL LOSSZX10-2-852-S+  
ISOLATIONZX10-2-852-S+  
VSWR

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