DC Pass

Power Splitter/Combiner ZX10-2-143M-S+

2 Way-0° 50Ω 4000 to 14000 MHz

The Big Deal

- Ultra-wideband, 4000 to 14000 MHz
- Low insertion loss, 0.8 dB
- Low amplitude unbalance, 0.1 dB
- Rugged unibody case



CASE STYLE: FL2227

Product Overview

Mini-Circuits' ZX10-2-143M-S+ is a coaxial, ultra-wideband 2-way 0˚ splitter combiner providing RF input power handling up to 2.5W as a splitter and 0.8 dB insertion loss for an extremely wide range of applications from 4000 to 14000 MHz. Its outstanding combination of low loss and low unbalance make this model an excellent choice for distributing signals in systems where excellent transmission of signal power is needed. The splitter/combiner comes housed in a rugged, compact case 0.74 x 090 x 0.54" with SMA connectors.

Key Features

Feature	Advantages
Ultra-wideband, 4000 to 14000 MHz	ZX10-2-143M-S+ supports bandwidth requirements for a wide variety of applications including broadband applications such as instrumentation and defense.
Low insertion loss, 0.8 dB	Provides excellent transmission of signal power, making this model an excellent candidate for signal distribution applications where low loss is a requirement.
Low amplitude unbalance, 0.1 dB	Produces nearly equal output signals, ideal for parallel path / multichannel systems.
DC passing up to 1.2A	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
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ZX10-2-143M-S+

2 Way-0° 50Ω 4000 to 14000 MHz



Generic photo used for illustration purposes only

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Connectors	Model
SMA	ZX10-2-143M-S+

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

Maximum Ratings

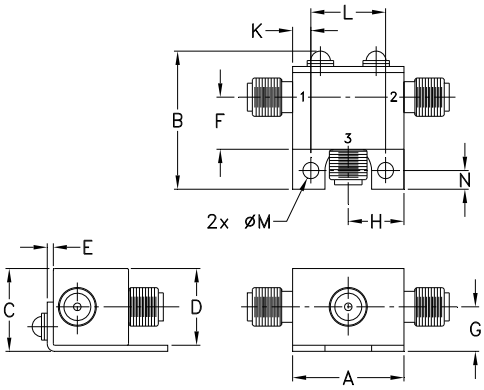
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	2.5W[1] max. at 25°C
Internal Dissipation	1.7W[2] max. at 25°C
DC Current	1.2A[3] max. at 25°C

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
3. Derate linearly to 0.6W 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 bandwidh, 4000 to 14000 MHz
- excellent amplitude unbalance, 0.1 dB typ.
- small size
- high ESD level*
- DC passing
- protected under US patent 6,790,049

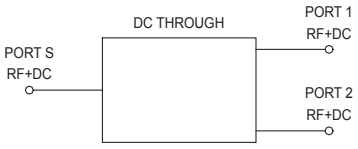
Applications

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

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency		4000		14000	MHz
Insertion Loss (above theoretical 3.0 dB)	4000 - 6000	—	0.7	1.0	dB
	6000 - 10000	—	1.1	1.6	
	10000 - 14000	—	1.6	2.0	
Isolation	4000 - 6000	12	15	—	dB
	6000 - 10000	17	20	—	
	10000 - 14000	14	18	—	
Phase Unbalance	4000 - 6000	—	1	3	Degree
	6000 - 10000	—	2	4	
	10000 - 14000	—	3	6	
Amplitude Unbalance	4000 - 6000	—	0.1	0.3	dB
	6000 - 10000	—	0.1	0.4	
	10000 - 14000	—	0.2	0.5	
VSWR (Port S)	4000 - 6000	—	1.4	—	:1
	6000 - 10000	—	1.5	—	
	10000 - 14000	—	1.6	—	
VSWR (Port 1-2)	4000 - 6000	—	1.5	—	:1
	6000 - 10000	—	1.5	—	
	10000 - 14000	—	1.5	—	

Electrical Schematic



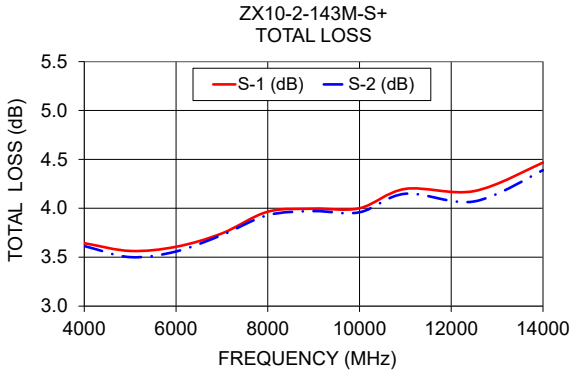
* ESD rating
Human body model (HBM): Class 2 (1800 to 4000V) inaccordance with ANSI / ESD 5.1-2007.
Machine model (MM). Class M3 (200 to <400V) in accordance with ANSI / ESD 5.2-2009

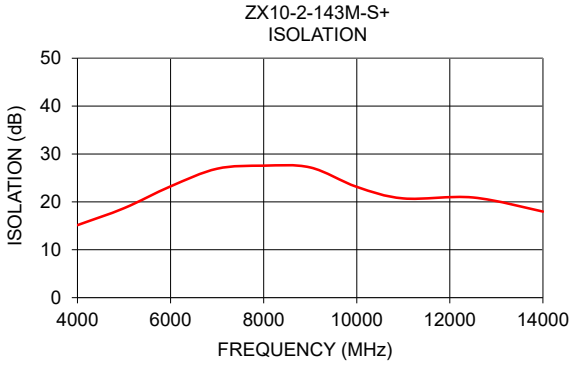
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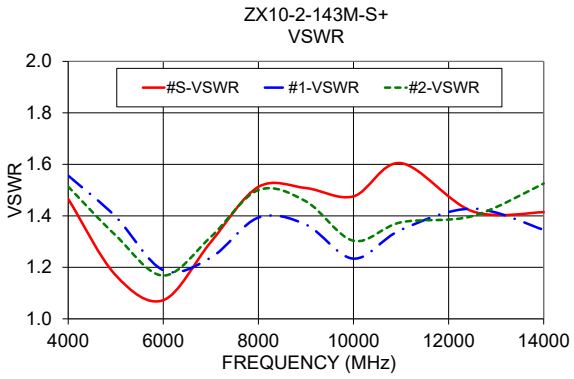
Typical Performance Data

Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
4000	3.64	3.61	0.03	15.14	0.17	1.47	1.56	1.51
5000	3.56	3.50	0.06	18.68	0.54	1.17	1.40	1.32
6000	3.61	3.56	0.05	23.24	1.02	1.07	1.19	1.17
7000	3.74	3.73	0.02	26.93	1.19	1.30	1.24	1.32
8000	3.97	3.93	0.04	27.56	1.28	1.51	1.39	1.50
9000	4.00	3.97	0.03	27.19	1.46	1.51	1.37	1.46
10000	4.00	3.96	0.04	23.14	1.55	1.48	1.23	1.30
11000	4.20	4.15	0.05	20.72	1.70	1.60	1.35	1.37
12500	4.18	4.07	0.11	20.91	1.65	1.42	1.43	1.40
14000	4.47	4.39	0.08	17.97	2.24	1.41	1.35	1.53

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







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