

Coaxial

Power Splitter/Combiner

2 Way-0° Resistive 50Ω DC to 12000 MHz
ZFRSC-123-S+

Generic photo used for illustration purposes only
CASE STYLE: JJJ245
Connectors Model
SMA ZFRSC-123-S+
BRACKET (OPTION "B")
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

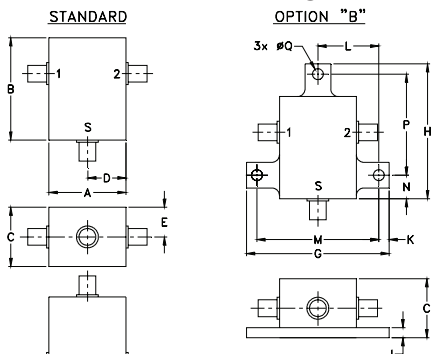
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.16W max.
Internal Dissipation	0.08W max.
Permanent damage may occur if any of these limits are exceeded.	

Coaxial Connections

SUM PORT	S
PORT 1	1
PORT 2	2

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
0.75	1.00	0.58	0.38	0.29	0.35	1.39	1.32
19.05	25.4	14.732	9.65	7.37	8.89	35.31	33.53
J	K	L	M	N	P	Q	wt
0.10	0.10	0.595	1.19	0.23	0.995	0.106	grams
2.54	2.54	15.11	30.23	5.84	25.27	2.69	22.0

Features

- very wideband, DC to 12000 MHz
- very good phase unbalance, 1 deg. typ.
- excellent amplitude unbalance, 0.1 dB typ.
- rugged shielded case

Applications

- laboratory
- IP3 test set-ups

Electrical Specifications $T_{AMB}=25^{\circ}\text{C}$

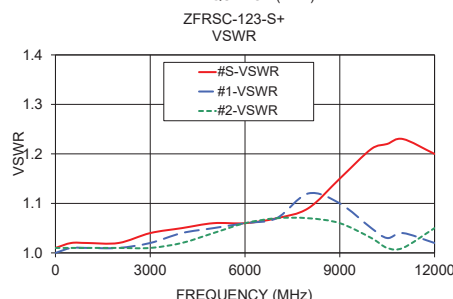
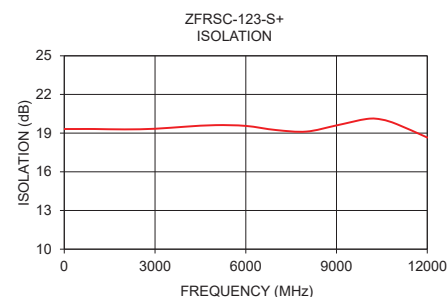
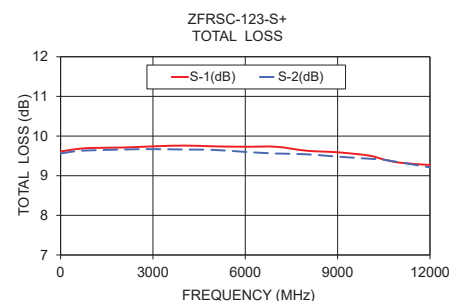
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB				PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)	
	L	U	L		U		L	U	L	U
f_L-f_U	Typ.	Typ.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.
DC-12000	19.5	19.5	3.5	4.0	3.5	4.0	3	5	0.25	0.4

L = DC-6000 MHz U = 6000-12000 MHz

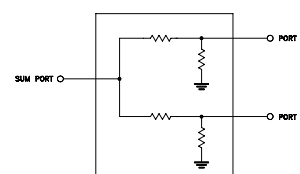
Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
1.00	9.61	9.56	0.05	19.32	0.06	1.01	1.00	1.01
500.00	9.67	9.62	0.05	19.32	0.07	1.02	1.01	1.01
1000.00	9.70	9.64	0.06	19.32	0.21	1.02	1.01	1.01
2000.00	9.71	9.66	0.05	19.29	0.48	1.02	1.01	1.01
3000.00	9.74	9.67	0.07	19.34	0.61	1.04	1.02	1.01
4000.00	9.76	9.66	0.10	19.50	0.78	1.05	1.04	1.02
5000.00	9.74	9.65	0.09	19.62	1.20	1.06	1.05	1.04
6000.00	9.73	9.60	0.13	19.56	1.60	1.06	1.06	1.06
7000.00	9.73	9.56	0.17	19.24	1.46	1.07	1.07	1.07
8000.00	9.63	9.54	0.09	19.12	1.56	1.09	1.12	1.07
9000.00	9.59	9.48	0.11	19.60	2.82	1.15	1.10	1.06
10000.00	9.51	9.43	0.07	20.10	2.52	1.21	1.05	1.03
10500.00	9.41	9.40	0.01	20.05	2.37	1.22	1.03	1.01
11000.00	9.33	9.34	0.00	19.69	2.67	1.23	1.04	1.01
12000.00	9.27	9.21	0.07	18.66	2.79	1.20	1.02	1.05

1. Total Loss = Insertion Loss + 6dB splitter loss.



electrical schematic



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-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp



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

REV. E
M175652
ZFRSC-123-S+
ED-13066/2
AD/CP/AM
190801

2 Way-0° Resistive Power Splitter/Combiner

ZFRSC-123+

Typical Performance Data

FREQ.	TOTAL LOSS ¹		AMP. UNBAL.	ISOLATION	PHASE UNBAL.	FREQ.	VSWR		
(MHz)	(dB)		(dB)	(dB)	(Deg.)	(MHz)	(:1)		
	S-1	S-2		1-2			S	1	2
1.0	9.61	9.56	0.05	19.32	0.06	1.0	1.01	1.00	1.01
5.0	9.62	9.56	0.05	19.33	0.00	5.0	1.01	1.01	1.00
9.0	9.61	9.56	0.05	19.33	0.03	9.0	1.01	1.01	1.01
10.0	9.62	9.56	0.06	19.33	0.03	10.0	1.01	1.01	1.01
50.0	9.64	9.57	0.06	19.33	0.02	50.0	1.02	1.01	1.01
90.0	9.64	9.58	0.07	19.32	0.01	90.0	1.02	1.01	1.01
100.0	9.65	9.58	0.07	19.32	0.00	100.0	1.02	1.01	1.01
300.0	9.67	9.60	0.06	19.32	0.01	300.0	1.02	1.01	1.01
500.0	9.67	9.62	0.05	19.32	0.07	500.0	1.02	1.01	1.01
700.0	9.68	9.64	0.05	19.32	0.14	700.0	1.02	1.01	1.01
900.0	9.69	9.64	0.05	19.31	0.17	900.0	1.02	1.01	1.01
1000.0	9.70	9.64	0.06	19.32	0.21	1000.0	1.02	1.01	1.01
1500.0	9.71	9.65	0.06	19.30	0.33	1500.0	1.02	1.01	1.01
2000.0	9.71	9.66	0.05	19.29	0.48	2000.0	1.02	1.01	1.01
2500.0	9.72	9.67	0.05	19.30	0.54	2500.0	1.03	1.01	1.00
3000.0	9.74	9.67	0.07	19.34	0.61	3000.0	1.04	1.02	1.01
3500.0	9.74	9.66	0.07	19.40	0.74	3500.0	1.05	1.03	1.02
4000.0	9.76	9.66	0.10	19.50	0.78	4000.0	1.05	1.04	1.02
4500.0	9.77	9.66	0.11	19.60	1.03	4500.0	1.06	1.04	1.03
5000.0	9.74	9.65	0.09	19.62	1.20	5000.0	1.06	1.05	1.04
5500.0	9.75	9.61	0.14	19.63	1.32	5500.0	1.06	1.05	1.05
6000.0	9.73	9.60	0.13	19.56	1.60	6000.0	1.06	1.06	1.06
6500.0	9.71	9.59	0.12	19.37	1.55	6500.0	1.06	1.07	1.07
7000.0	9.73	9.56	0.17	19.24	1.46	7000.0	1.07	1.07	1.07
7500.0	9.71	9.53	0.19	19.05	1.74	7500.0	1.07	1.05	1.07
8000.0	9.63	9.54	0.09	19.12	1.56	8000.0	1.09	1.12	1.07
8500.0	9.61	9.47	0.14	19.32	1.78	8500.0	1.12	1.07	1.07
9000.0	9.59	9.48	0.11	19.60	2.82	9000.0	1.15	1.10	1.06
9500.0	9.48	9.45	0.03	19.85	2.32	9500.0	1.18	1.09	1.05
10000.0	9.51	9.43	0.07	20.10	2.52	10000.0	1.21	1.05	1.03
10500.0	9.41	9.40	0.01	20.05	2.37	10500.0	1.22	1.03	1.01
11000.0	9.33	9.34	0.00	19.69	2.67	11000.0	1.23	1.04	1.01
11500.0	9.37	9.29	0.08	19.25	2.96	11500.0	1.22	1.03	1.03
12000.0	9.27	9.21	0.07	18.66	2.79	12000.0	1.20	1.02	1.05

¹Total Loss = Insertion Loss + 6dB Splitter Loss



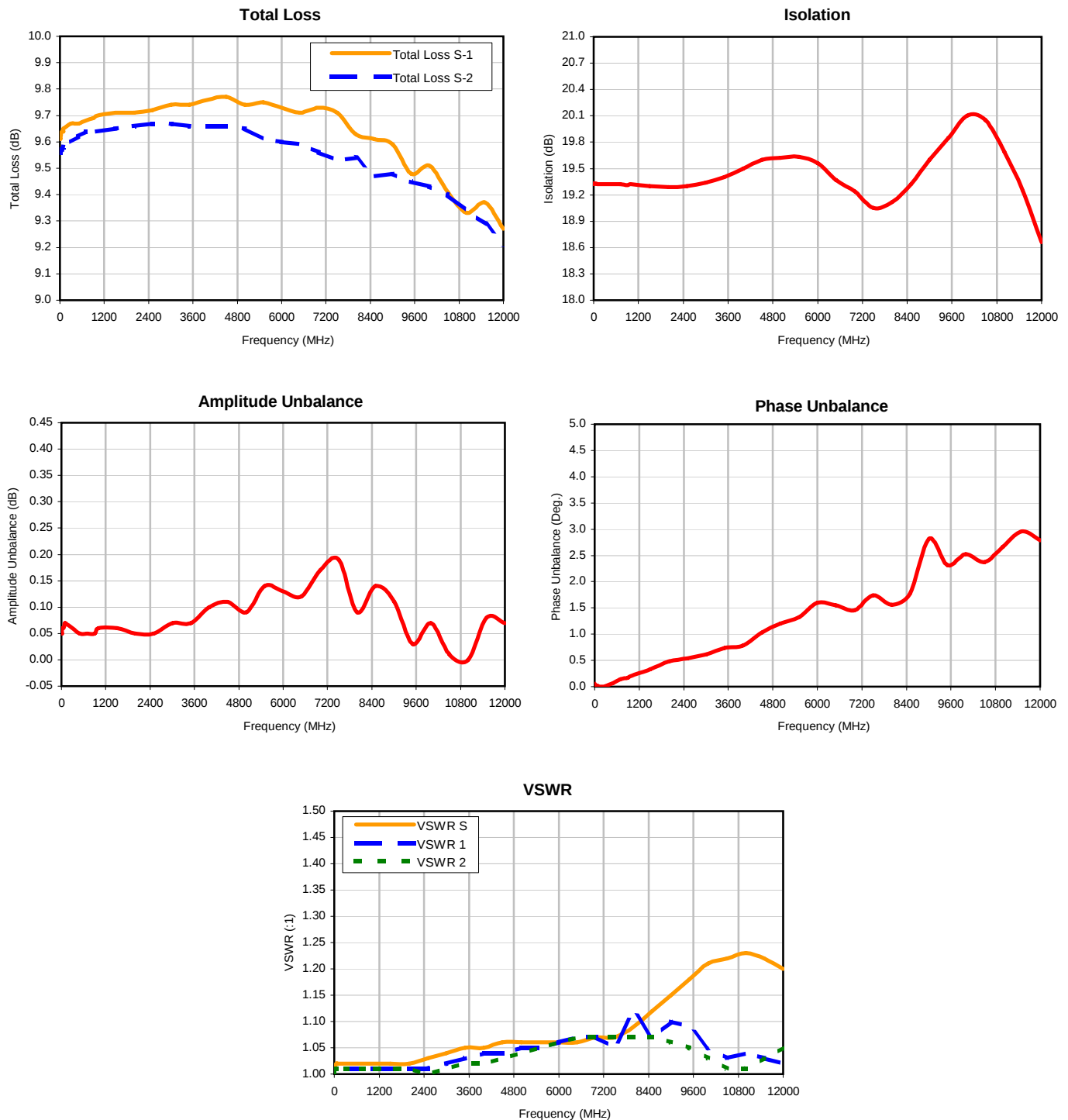
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
 The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

IF/RF MICROWAVE COMPONENTS

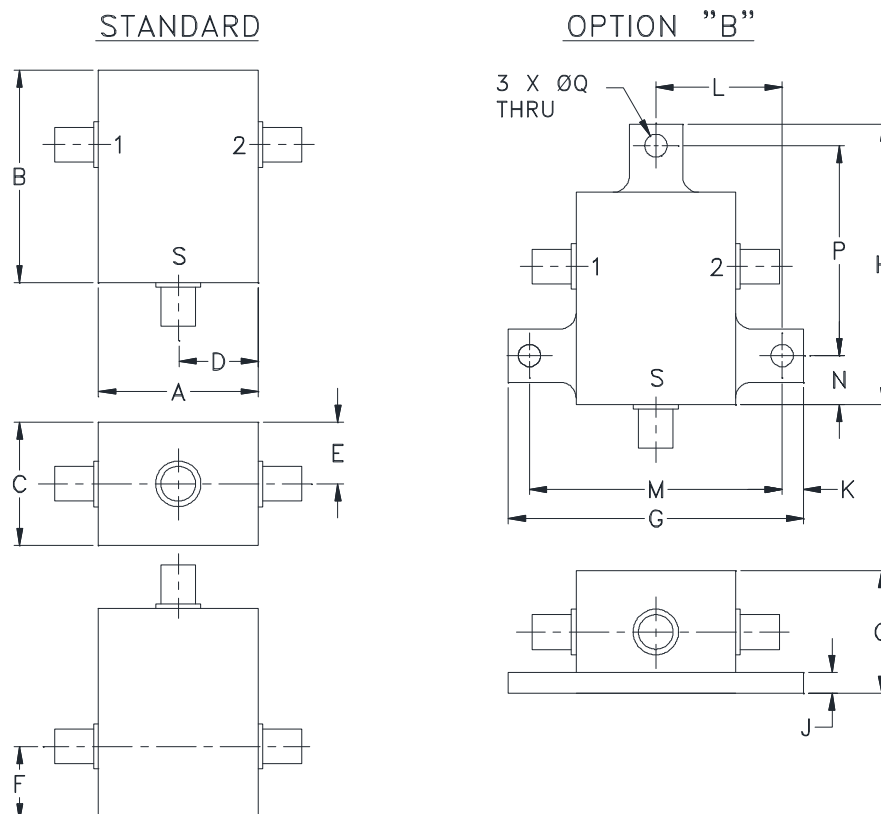


REV. X3
 ZFRSC-123+
 9/20/2010
 Page 1 of 1

Typical Performance Curves



Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L
JJJ245	.75 (19.05)	1.00 (25.40)	.58 (14.73)	.38 (9.65)	.29 (7.37)	.35 (8.89)	1.39 (35.31)	1.32 (33.53)	.10 (2.54)	.10 (2.54)	.595 (15.11)

CASE#	M	N	P	Q	WT. GRAM
JJJ245	1.190 (30.23)	.23 (5.84)	.995 (25.27)	.106 (2.69)	22.0

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Case material: Aluminum alloy.
- Case finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
- Mounting bracket available upon request. Add suffix B to part number.



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I