

Power Splitter/Combiner

ZF3RSC-542-S+

3 Way-0° Resistive 50Ω DC to 5400 MHz

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.1W max.
Internal Dissipation	0.386W max.

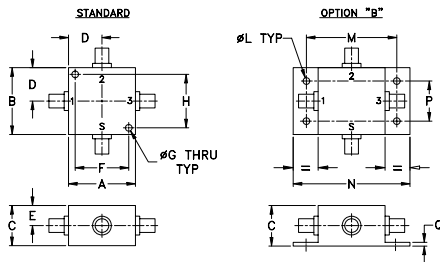
Permanent damage may occur if any of these limits are exceeded.

Coaxial Connections

SUM PORT	S
PORT 1	1
PORT 2	2
PORT 3	3

Ports can be interchanged.

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.000	.125	1.000
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40

J	K	L	M	N	P	Q	wt
--	--	.125	1.688	2.18	.75	.07	grams
--	--	3.18	42.88	55.37	19.05	1.78	75.0

Electrical Schematic



Features

- very wideband, DC to 5400 MHz
- low flatness, 0.38dB typ.
- rugged shielded case
- low cost

Applications

- laboratory
- test set-ups



Generic photo used for illustration purposes only

CASE STYLE: J17

Connectors	Model
SMA	ZF3RSC-542-S+
BRACKET (OPTION)	

+RoHS Compliant

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

Electrical Specifications at 25°C

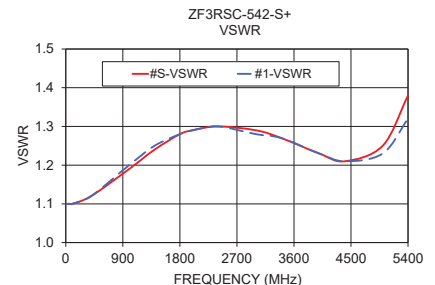
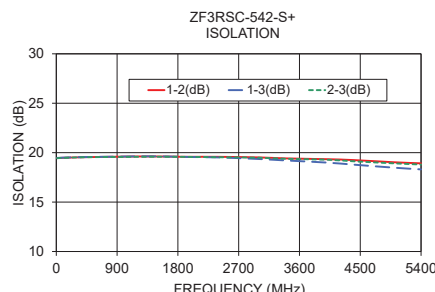
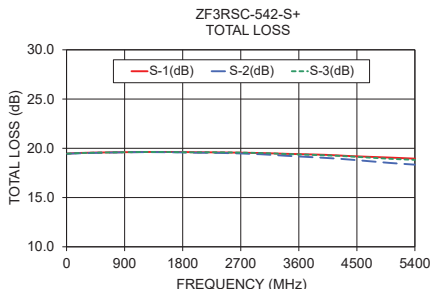
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		5400	MHz
Insertion Loss Above 18 dB	DC-100	—	1.5	1.8	dB
	100-2800	—	1.6	1.9	
	2800-5400	—	1.6	1.9	
Isolation	DC-100	17	19	—	dB
	100-2800	17	19	—	
	2800-5400	17	18	—	
Phase Unbalance	DC-100	—	0.5	1	Degree
	100-2800	—	11	15	
	2800-5400	—	19	25	
Amplitude Unbalance	DC-100	—	0.03	0.2	dB
	100-2800	—	0.14	0.3	
	2800-5400	—	0.6	0.9	
VSWR (Port S)	DC-100	—	1.1	1.2	:1
	100-2800	—	1.3	1.5	
	2800-5400	—	1.4	1.6	
VSWR (Port 1-3)	DC-100	—	1.1	1.2	:1
	100-2800	—	1.3	1.5	
	2800-5400	—	1.4	1.6	

This is a resistive power divider to enable frequency coverage from DC to the highest rated frequency. Since resistive power divider do not provide a high degree of isolation (basically isolation equals the insertion loss between ports).

Typical Performance Data

Freq. (MHz)	Total Loss ¹ (dB)			Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3
	S-1	S-2	S-3		1-2	1-3	2-3					
10.00	19.47	19.44	19.46	0.03	19.45	19.47	19.44	0.07	1.10	1.10	1.09	1.10
50.00	19.48	19.46	19.47	0.02	19.47	19.48	19.46	0.24	1.10	1.10	1.09	1.10
100.00	19.50	19.47	19.49	0.03	19.48	19.50	19.47	0.46	1.10	1.10	1.10	1.10
400.00	19.56	19.53	19.55	0.03	19.54	19.55	19.54	1.72	1.12	1.12	1.12	1.13
1000.00	19.61	19.60	19.61	0.02	19.60	19.61	19.57	4.13	1.19	1.20	1.19	1.21
1400.00	19.63	19.61	19.63	0.02	19.62	19.63	19.59	5.82	1.24	1.25	1.24	1.26
1800.00	19.62	19.58	19.60	0.05	19.59	19.59	19.58	7.37	1.28	1.28	1.28	1.29
2000.00	19.60	19.55	19.59	0.05	19.58	19.56	19.57	8.01	1.29	1.29	1.30	1.31
2400.00	19.58	19.53	19.59	0.06	19.58	19.52	19.54	9.42	1.30	1.30	1.32	1.32
3000.00	19.52	19.40	19.52	0.12	19.52	19.36	19.49	11.17	1.29	1.28	1.32	1.31
3400.00	19.44	19.24	19.42	0.20	19.42	19.21	19.38	12.36	1.27	1.27	1.29	1.28
4000.00	19.34	19.03	19.29	0.31	19.34	19.00	19.29	13.92	1.23	1.23	1.26	1.22
4400.00	19.21	18.85	19.17	0.36	19.25	18.79	19.13	14.93	1.21	1.21	1.22	1.19
5000.00	19.06	18.52	18.94	0.54	19.03	18.48	18.92	17.29	1.25	1.23	1.20	1.22
5400.00	18.95	18.34	18.83	0.61	18.92	18.31	18.80	18.70	1.38	1.32	1.29	1.35

1. Total Loss = Insertion Loss + 18 dB splitter loss.



Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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/WCLStore/terms.jsp



3 Way-0° Resistive Power Splitter/Combiner

ZF3RSC-542+

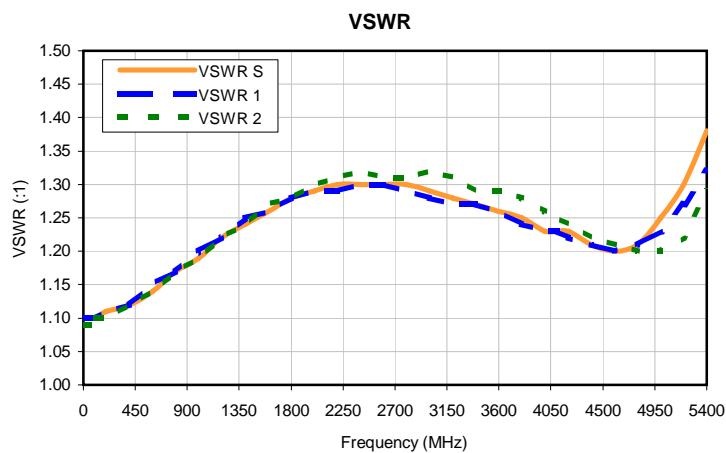
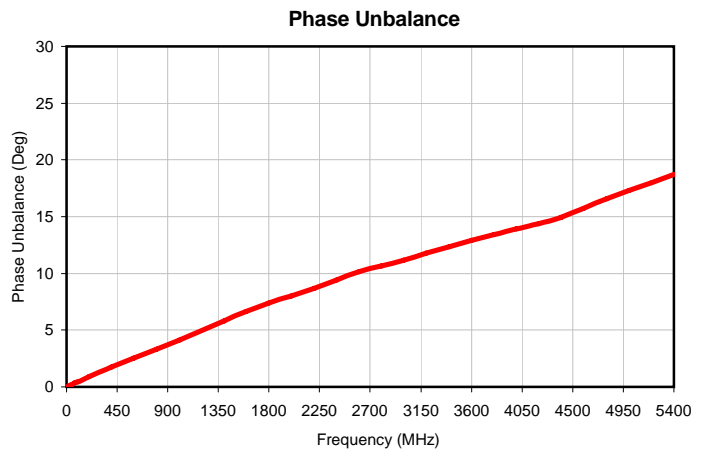
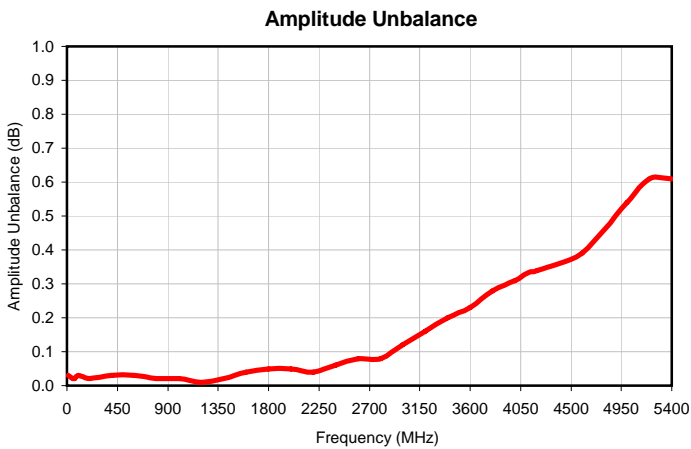
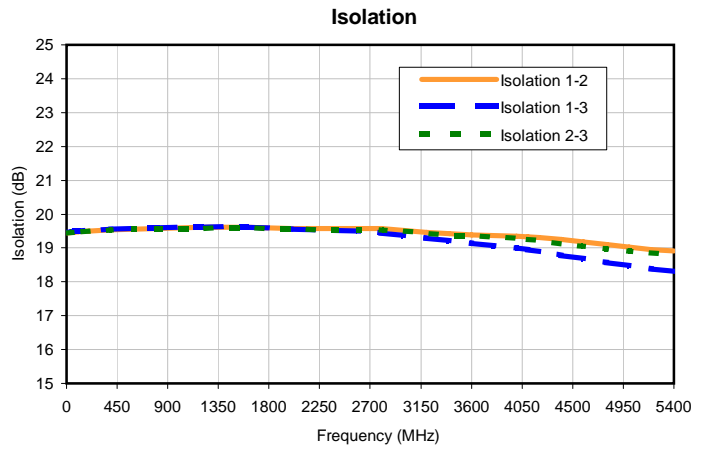
Typical Performance Data

FREQUENCY (MHz)	TOTAL LOSS ¹ (dB)			AMPLITUDE UNBALANCE (dB)	ISOLATION (dB)			PHASE UNBALANCE (Deg)	FREQUENCY (MHz)	VSWR (:1)			
	S-1	S-2	S-3		1-2	1-3	2-3			S	1	2	3
10.0	19.47	19.44	19.46	0.03	19.45	19.47	19.44	0.07	10.0	1.10	1.10	1.09	1.10
50.0	19.48	19.46	19.47	0.02	19.47	19.48	19.46	0.24	50.0	1.10	1.10	1.09	1.10
70.0	19.49	19.46	19.48	0.02	19.47	19.49	19.46	0.32	70.0	1.10	1.10	1.10	1.10
100.0	19.50	19.47	19.49	0.03	19.48	19.50	19.47	0.46	100.0	1.10	1.10	1.10	1.10
200.0	19.52	19.50	19.51	0.02	19.50	19.52	19.50	0.88	200.0	1.11	1.11	1.10	1.11
400.0	19.56	19.53	19.55	0.03	19.54	19.55	19.54	1.72	400.0	1.12	1.12	1.12	1.13
600.0	19.59	19.56	19.57	0.03	19.56	19.57	19.56	2.53	600.0	1.14	1.15	1.14	1.15
800.0	19.60	19.58	19.59	0.02	19.58	19.59	19.57	3.34	800.0	1.17	1.17	1.17	1.18
1000.0	19.61	19.60	19.61	0.02	19.60	19.61	19.57	4.13	1000.0	1.19	1.20	1.19	1.21
1200.0	19.62	19.61	19.62	0.01	19.61	19.62	19.58	4.95	1200.0	1.22	1.22	1.22	1.23
1400.0	19.63	19.61	19.63	0.02	19.62	19.63	19.59	5.82	1400.0	1.24	1.25	1.24	1.26
1600.0	19.64	19.60	19.62	0.04	19.61	19.61	19.59	6.66	1600.0	1.26	1.26	1.27	1.28
1800.0	19.62	19.58	19.60	0.05	19.59	19.59	19.58	7.37	1800.0	1.28	1.28	1.28	1.29
2000.0	19.60	19.55	19.59	0.05	19.58	19.56	19.57	8.01	2000.0	1.29	1.29	1.30	1.31
2200.0	19.58	19.54	19.58	0.04	19.58	19.54	19.54	8.68	2200.0	1.30	1.29	1.31	1.31
2400.0	19.58	19.53	19.59	0.06	19.58	19.52	19.54	9.42	2400.0	1.30	1.30	1.32	1.32
2600.0	19.57	19.51	19.59	0.08	19.58	19.50	19.54	10.15	2600.0	1.30	1.30	1.31	1.32
2800.0	19.56	19.48	19.56	0.08	19.57	19.44	19.53	10.67	2800.0	1.30	1.29	1.31	1.31
3000.0	19.52	19.40	19.52	0.12	19.52	19.36	19.49	11.17	3000.0	1.29	1.28	1.32	1.31
3200.0	19.48	19.32	19.47	0.16	19.47	19.29	19.44	11.77	3200.0	1.28	1.27	1.31	1.29
3400.0	19.44	19.24	19.42	0.20	19.42	19.21	19.38	12.36	3400.0	1.27	1.27	1.29	1.28
3600.0	19.41	19.18	19.38	0.23	19.39	19.14	19.35	12.91	3600.0	1.26	1.26	1.29	1.26
3800.0	19.39	19.11	19.34	0.28	19.36	19.07	19.33	13.44	3800.0	1.25	1.24	1.28	1.25
4000.0	19.34	19.03	19.29	0.31	19.34	19.00	19.29	13.92	4000.0	1.23	1.23	1.26	1.22
4100.0	19.31	18.99	19.26	0.33	19.33	18.95	19.26	14.13	4100.0	1.23	1.23	1.25	1.21
4200.0	19.28	18.94	19.23	0.34	19.31	18.90	19.22	14.36	4200.0	1.23	1.22	1.24	1.2
4400.0	19.21	18.85	19.17	0.36	19.25	18.79	19.13	14.93	4400.0	1.21	1.21	1.22	1.19
4600.0	19.13	18.74	19.08	0.39	19.18	18.68	19.04	15.72	4600.0	1.20	1.20	1.21	1.18
4800.0	19.09	18.62	19.00	0.46	19.10	18.57	18.97	16.59	4800.0	1.21	1.21	1.20	1.18
5000.0	19.06	18.52	18.94	0.54	19.03	18.48	18.92	17.29	5000.0	1.25	1.23	1.20	1.22
5200.0	19.02	18.41	18.89	0.61	18.96	18.39	18.86	17.99	5200.0	1.30	1.27	1.22	1.27
5400.0	18.95	18.34	18.83	0.61	18.92	18.31	18.80	18.70	5400.0	1.38	1.32	1.29	1.35

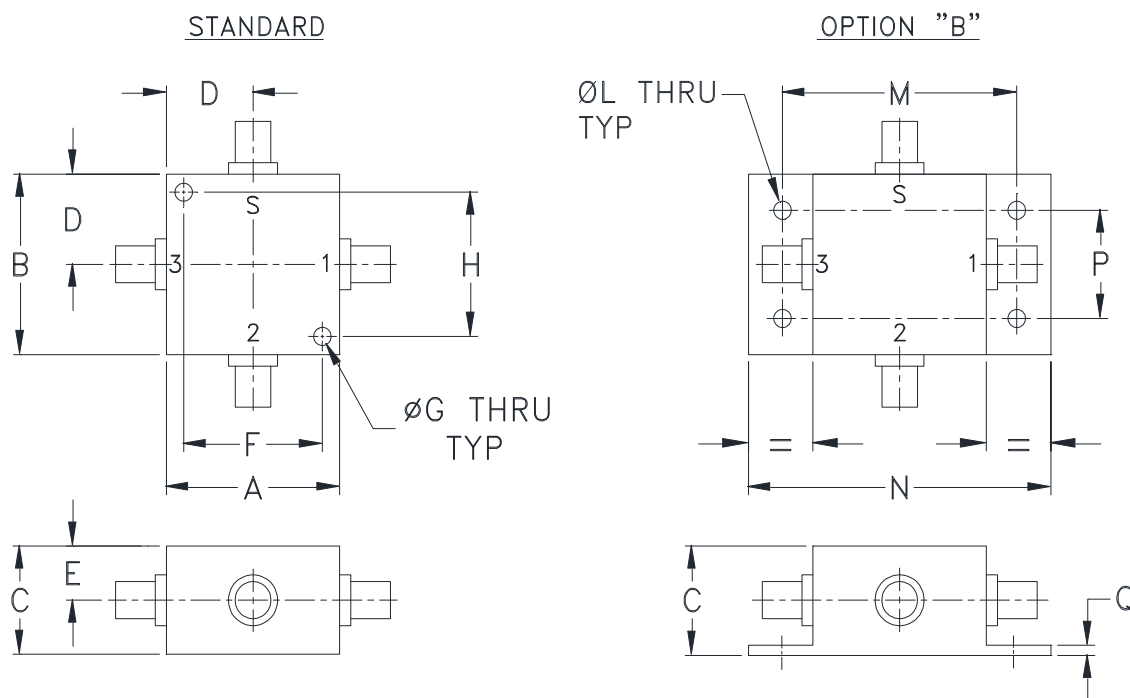
¹Total Loss = Insertion Loss + 18dB Splitter Loss



Typical Performance Curves



Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
J17	1.25 (31.75)	1.25 (31.75)	.75 (19.05)	.63 (16.00)	.38 (9.65)	1.000 (25.40)	.125 (3.18)	1.000 (25.40)	--	--	.125 (3.18)	1.688 (42.88)	2.18 (55.37)

CASE#	P	Q	WT. GRAMS
J17	.75 (19.05)	.07 (1.78)	75.0

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

Notes:

1. Case material: Aluminum alloy.
2. Case finish:
For RoHS Case Styles: Clear chemical conversion coating, non-chrome or trivalent chrome based.
3. Mounting bracket available on request. Add suffix B to part number
4. For bracket version, option B, dimension "C" changes from .75 to .94 inches when connectors are type N.



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

RF/IF MICROWAVE COMPONENTS



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	-40° to 85°C	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