

Coaxial

# Power Splitter/Combiner

## ZFSC-2-1W+

2 Way-0° 50Ω 1 to 750 MHz



Generic photo used for illustration purposes only  
CASE STYLE: K18

Connectors	Model
BNC	ZFSC-2-1W+
SMA	ZFSC-2-1W-S+
N-TYPE	ZFSC-2-1W-N+
BRACKET (OPTION)	

**+RoHS Compliant**

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

### Maximum Ratings

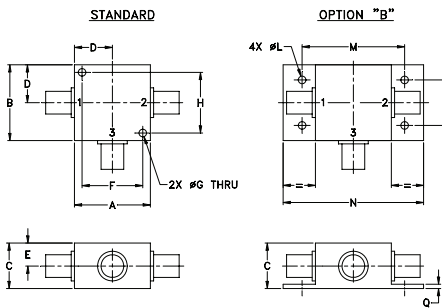
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.125W max.

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

### Coaxial Connections

SUM PORT	3
PORT 1	1
PORT 2	2

### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	wt
1.25	1.25	.75	.63	.38	1.00	.125	1.000	--	--	.125	1.688	2.18	.75	.07	grams
31.75	31.75	19.05	16.00	9.65	25.40	3.18	25.40	--	--	3.18	42.88	55.37	19.05	1.78	70.0

For option B with N-type connectors, dimension "C" increases to 0.94 inches.

### Features

- low insertion loss, 0.4 dB typ.
- high isolation, 28 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 0.5 deg. typ.
- very good return loss, VSWR, 1.15:1 typ.
- rugged shielded case

### Applications

- VHF/UHF
- federal & defense communication

### Electrical Specifications

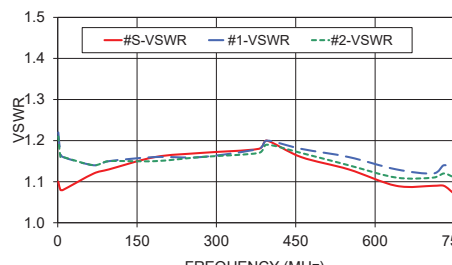
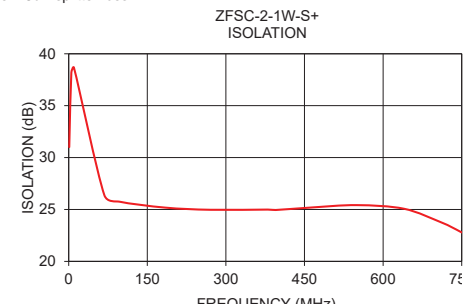
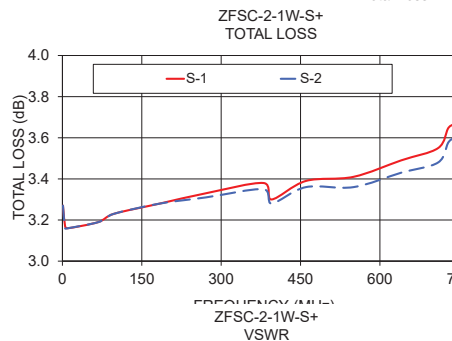
FREQ. RANGE (MHz)	ISOLATION (dB)				INSERTION LOSS (dB) ABOVE 3.0 dB				PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)						
	Typ.	L	Min.	U	Typ.	L	Max.	U	L	M	U	L	M	U				
1-750	30	20	28	20	25	20	0.2	0.5	0.4	0.8	0.8	1.0	2	4	4	0.15	0.15	0.30

L = low range [ $f_L$  to  $10 f_L$ ] M = mid range [ $10 f_L$  to  $f_U/2$ ] U = upper range [ $f_U/2$  to  $f_U$ ]

### 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						
1.00	3.27	3.27	0.00	31.01	0.01	1.10	1.22	1.21
5.00	3.17	3.16	0.01	38.19	0.02	1.08	1.17	1.16
10.00	3.16	3.16	0.00	38.65	0.14	1.08	1.16	1.16
68.00	3.19	3.19	0.01	26.38	0.07	1.12	1.14	1.14
97.00	3.23	3.23	0.00	25.75	0.09	1.13	1.15	1.15
184.00	3.28	3.28	0.01	25.18	0.09	1.16	1.16	1.15
271.00	3.33	3.31	0.02	24.97	0.20	1.17	1.16	1.16
380.00	3.38	3.35	0.03	24.99	0.24	1.18	1.18	1.17
395.00	3.30	3.28	0.02	24.95	0.21	1.20	1.20	1.19
460.00	3.39	3.36	0.03	25.18	0.22	1.16	1.18	1.17
550.00	3.41	3.36	0.05	25.42	0.31	1.13	1.16	1.14
640.00	3.49	3.43	0.06	25.07	0.36	1.09	1.13	1.11
710.00	3.55	3.48	0.07	23.78	0.48	1.09	1.12	1.11
730.00	3.65	3.58	0.07	23.32	0.59	1.09	1.14	1.12
750.00	3.67	3.61	0.07	22.79	0.58	1.07	1.13	1.11

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



### electrical schematic



### 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.
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# 2 Way-0° Power Splitter/Combiner

# ZFSC-2-1W+

## Typical Performance Data

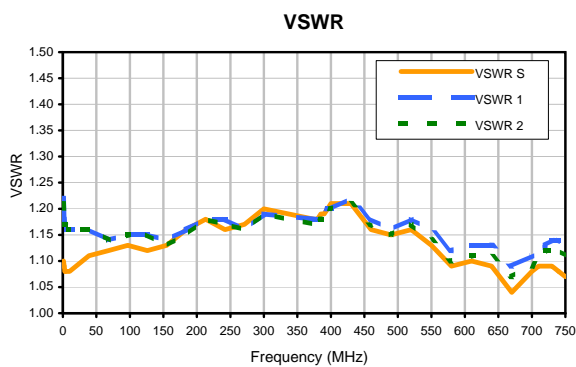
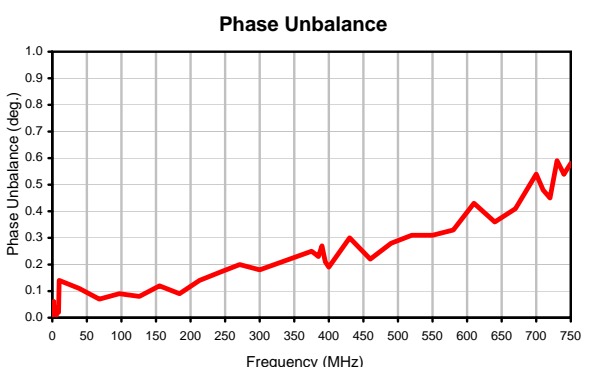
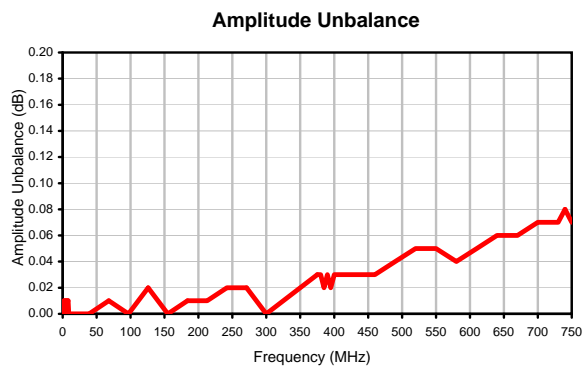
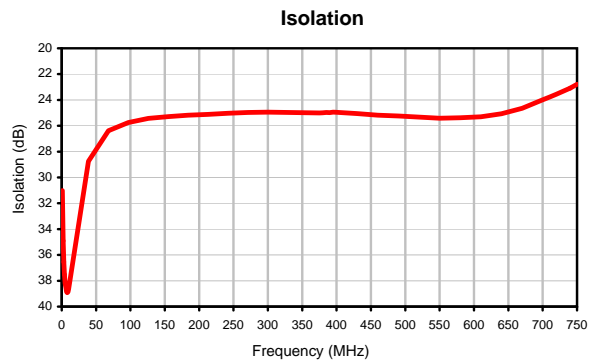
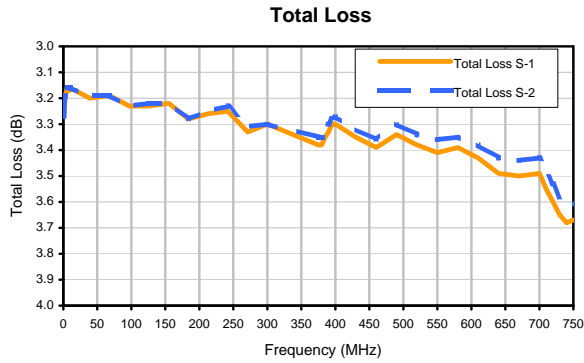
FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)		AMP. UNBAL. (dB)	ISOLATION (dB)	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
1.0	3.27	3.27	0.00	31.01	0.01	1.0	1.10	1.22	1.21
2.0	3.21	3.21	0.01	34.91	0.06	2.0	1.09	1.18	1.18
3.0	3.19	3.19	0.00	36.54	0.02	3.0	1.08	1.17	1.17
4.0	3.18	3.17	0.01	37.52	0.03	4.0	1.08	1.17	1.17
5.0	3.17	3.16	0.01	38.19	0.02	5.0	1.08	1.17	1.16
6.0	3.16	3.16	0.00	38.53	0.01	6.0	1.08	1.16	1.16
7.0	3.17	3.16	0.01	38.85	0.04	7.0	1.08	1.16	1.16
8.0	3.16	3.16	0.01	38.92	0.02	8.0	1.08	1.16	1.16
9.0	3.17	3.16	0.00	38.87	0.02	9.0	1.08	1.16	1.16
10.0	3.16	3.16	0.00	38.65	0.14	10.0	1.08	1.16	1.16
39.0	3.20	3.19	0.00	28.75	0.11	39.0	1.11	1.16	1.16
68.0	3.19	3.19	0.01	26.38	0.07	68.0	1.12	1.14	1.14
97.0	3.23	3.23	0.00	25.75	0.09	97.0	1.13	1.15	1.15
126.0	3.23	3.22	0.02	25.43	0.08	126.0	1.12	1.15	1.15
155.0	3.22	3.22	0.00	25.29	0.12	155.0	1.13	1.14	1.13
184.0	3.28	3.28	0.01	25.18	0.09	184.0	1.16	1.16	1.15
213.0	3.26	3.25	0.01	25.12	0.14	213.0	1.18	1.18	1.18
242.0	3.25	3.23	0.02	25.03	0.17	242.0	1.16	1.18	1.17
271.0	3.33	3.31	0.02	24.97	0.20	271.0	1.17	1.16	1.16
300.0	3.30	3.30	0.00	24.94	0.18	300.0	1.20	1.19	1.19
375.0	3.38	3.35	0.03	25.00	0.25	375.0	1.18	1.18	1.17
380.0	3.38	3.35	0.03	24.99	0.24	380.0	1.18	1.18	1.17
385.0	3.35	3.33	0.02	24.97	0.23	385.0	1.19	1.18	1.18
390.0	3.33	3.30	0.03	24.98	0.27	390.0	1.19	1.19	1.18
395.0	3.30	3.28	0.02	24.95	0.21	395.0	1.20	1.20	1.19
400.0	3.30	3.27	0.03	24.96	0.19	400.0	1.21	1.20	1.20
430.0	3.35	3.32	0.03	25.06	0.30	430.0	1.21	1.22	1.21
460.0	3.39	3.36	0.03	25.18	0.22	460.0	1.16	1.18	1.17
490.0	3.34	3.30	0.04	25.24	0.28	490.0	1.15	1.16	1.15
520.0	3.38	3.34	0.05	25.33	0.31	520.0	1.16	1.18	1.17
550.0	3.41	3.36	0.05	25.42	0.31	550.0	1.13	1.16	1.14
580.0	3.39	3.35	0.04	25.38	0.33	580.0	1.09	1.12	1.10
610.0	3.43	3.38	0.05	25.30	0.43	610.0	1.10	1.13	1.11
640.0	3.49	3.43	0.06	25.07	0.36	640.0	1.09	1.13	1.11
670.0	3.50	3.44	0.06	24.65	0.41	670.0	1.04	1.09	1.07
700.0	3.49	3.43	0.07	23.99	0.54	700.0	1.08	1.11	1.09
710.0	3.55	3.48	0.07	23.78	0.48	710.0	1.09	1.12	1.11
720.0	3.60	3.53	0.07	23.56	0.45	720.0	1.09	1.13	1.12
730.0	3.65	3.58	0.07	23.32	0.59	730.0	1.09	1.14	1.12
740.0	3.68	3.60	0.08	23.09	0.54	740.0	1.08	1.14	1.12
750.0	3.67	3.61	0.07	22.79	0.58	750.0	1.07	1.13	1.11

<sup>1</sup> Total Loss = Insertion Loss+ 3dB Splitter Loss

# 2 Way-0° Power Splitter/Combiner

# ZFSC-2-1W+

## Typical Performance Curves



REV. X2  
ZFSC-2-1W+  
100627  
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### Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	M	N
K18	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
K18	.75 (19.05)	.07 (1.78)	70.0

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 on request. Add suffix B to part number.
- For port marking 1, 2, and 3 see specifications data sheet.
- For bracket version, option B, dimension "C" changes from .75 to .94 inches when connectors are type N.
- Refer to the individual model data sheet for the type of connectors available.



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<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
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