

Coaxial

# Power Splitter/Combiner

## ZFSC-2-2+

2 Way-0° 50Ω 10 to 1000 MHz



Generic photo used for illustration purposes only  
CASE STYLE: K18

Connectors	Model
BNC	ZFSC-2-2+
SMA	ZFSC-2-2-S+
N-TYPE	ZFSC-2-2-N+
BRACKET (OPTION "B")	

**+RoHS Compliant**

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

### Maximum Ratings

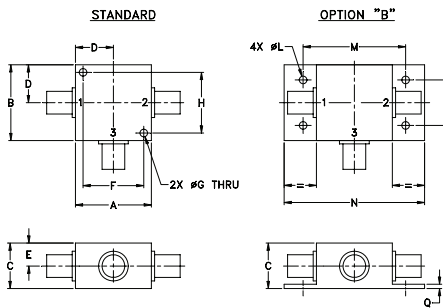
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.125W max.

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

- wideband, 10 to 1000 MHz
- low insertion loss, 0.4 dB typ.
- excellent isolation, 28 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 0.5 deg. typ.
- very good return loss, VSWR, 1.2:1 typ.
- rugged shielded case

### Applications

- cellular
- VHF/UHF
- instrumentation

### Electrical Specifications

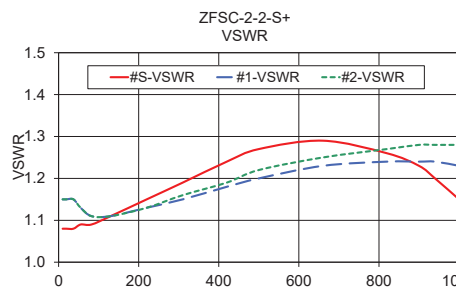
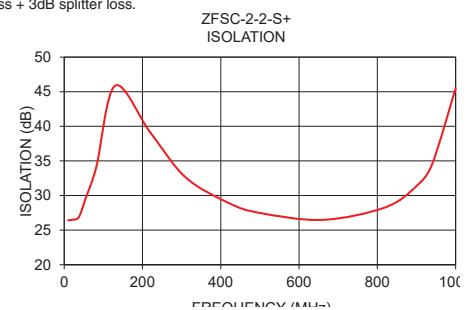
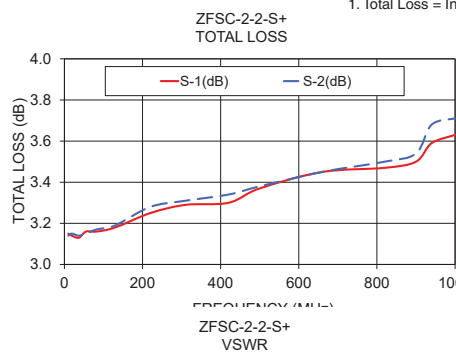
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3.0 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
10-1000	30	20	25	20	23	18	0.2	0.5	0.5	1.0	0.9	1.2	2	4	4	0.15	0.15	0.30

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  $f_U$ ]

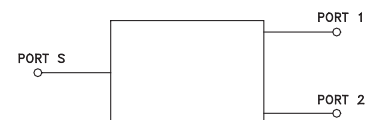
### Typical Performance Data

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						
10.00	3.15	3.14	0.01	26.42	0.03	1.08	1.15	1.15
19.00	3.14	3.15	0.00	26.49	0.01	1.08	1.15	1.15
37.00	3.13	3.14	0.01	26.85	0.03	1.08	1.15	1.15
55.00	3.16	3.15	0.01	29.63	0.06	1.09	1.13	1.13
82.00	3.16	3.17	0.01	34.12	0.00	1.09	1.11	1.11
130.00	3.18	3.19	0.01	45.87	0.00	1.11	1.11	1.11
220.00	3.25	3.28	0.03	39.11	0.03	1.15	1.13	1.13
310.00	3.29	3.31	0.02	32.63	0.15	1.19	1.15	1.16
420.00	3.30	3.34	0.04	28.93	0.22	1.24	1.18	1.19
500.00	3.37	3.38	0.01	27.48	0.37	1.27	1.20	1.22
660.00	3.45	3.45	0.00	26.48	0.31	1.29	1.23	1.25
820.00	3.47	3.50	0.03	28.28	0.87	1.26	1.24	1.27
900.00	3.50	3.54	0.04	31.36	0.87	1.23	1.24	1.28
940.00	3.59	3.68	0.08	34.52	0.52	1.20	1.24	1.28
1000.00	3.63	3.71	0.08	45.49	0.51	1.15	1.23	1.28

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-2-2+

## Typical Performance Data

FREQ. (MHz)	TOTAL LOSS <sup>1</sup>		AMP. UNBAL. (dB)	ISOLATION (dB)	PHASE UNBAL. (Deg.)	FREQ. (MHz)	VSWR		
	(dB)						(:1)		
	S-1	S-2					S	1	2
10.0	3.15	3.14	0.01	26.42	0.03	10.0	1.08	1.15	1.15
19.0	3.14	3.15	0.00	26.49	0.01	19.0	1.08	1.15	1.15
28.0	3.15	3.16	0.01	26.48	0.03	28.0	1.08	1.15	1.15
37.0	3.13	3.14	0.01	26.85	0.03	37.0	1.08	1.15	1.15
46.0	3.14	3.14	0.00	28.07	0.09	46.0	1.08	1.14	1.14
55.0	3.16	3.15	0.01	29.63	0.06	55.0	1.09	1.13	1.13
64.0	3.17	3.17	0.01	31.11	0.01	64.0	1.09	1.12	1.12
73.0	3.17	3.17	0.00	32.61	0.02	73.0	1.09	1.11	1.12
82.0	3.16	3.17	0.01	34.12	0.00	82.0	1.09	1.11	1.11
91.0	3.17	3.18	0.01	35.74	0.13	91.0	1.09	1.11	1.11
100.0	3.18	3.17	0.01	37.54	0.11	100.0	1.10	1.11	1.11
130.0	3.18	3.19	0.01	45.87	0.00	130.0	1.11	1.11	1.11
160.0	3.21	3.22	0.01	57.73	0.12	160.0	1.12	1.11	1.12
190.0	3.20	3.20	0.01	43.74	0.12	190.0	1.13	1.12	1.12
220.0	3.25	3.28	0.03	39.11	0.03	220.0	1.15	1.13	1.13
250.0	3.24	3.23	0.01	36.19	0.22	250.0	1.16	1.13	1.14
280.0	3.26	3.27	0.01	34.20	0.03	280.0	1.18	1.14	1.15
310.0	3.29	3.31	0.02	32.63	0.15	310.0	1.19	1.15	1.16
340.0	3.25	3.25	0.01	31.32	0.22	340.0	1.21	1.16	1.17
370.0	3.36	3.36	0.00	30.37	0.18	370.0	1.22	1.17	1.18
400.0	3.30	3.32	0.02	29.44	0.02	400.0	1.23	1.18	1.19
420.0	3.30	3.34	0.04	28.93	0.22	420.0	1.24	1.18	1.19
440.0	3.36	3.35	0.01	28.52	0.33	440.0	1.25	1.19	1.20
460.0	3.35	3.35	0.00	28.10	0.03	460.0	1.25	1.19	1.21
480.0	3.34	3.39	0.05	27.79	0.15	480.0	1.26	1.19	1.21
500.0	3.37	3.38	0.01	27.48	0.37	500.0	1.27	1.20	1.22
540.0	3.36	3.38	0.03	26.97	0.09	540.0	1.28	1.21	1.23
580.0	3.40	3.42	0.02	26.68	0.39	580.0	1.29	1.21	1.24
620.0	3.39	3.45	0.06	26.48	0.14	620.0	1.29	1.22	1.24
660.0	3.45	3.45	0.00	26.48	0.31	660.0	1.29	1.23	1.25
700.0	3.44	3.50	0.06	26.61	0.08	700.0	1.29	1.23	1.26
740.0	3.44	3.45	0.00	26.90	0.76	740.0	1.29	1.23	1.26
780.0	3.47	3.56	0.09	27.51	0.06	780.0	1.28	1.24	1.27
820.0	3.47	3.50	0.03	28.28	0.87	820.0	1.26	1.24	1.27
860.0	3.53	3.60	0.07	29.64	0.09	860.0	1.25	1.24	1.28
900.0	3.50	3.54	0.04	31.36	0.87	900.0	1.23	1.24	1.28
920.0	3.58	3.61	0.04	32.75	0.35	920.0	1.21	1.24	1.28
940.0	3.59	3.68	0.08	34.52	0.52	940.0	1.20	1.24	1.28
960.0	3.64	3.71	0.06	36.82	0.58	960.0	1.19	1.23	1.28
980.0	3.58	3.65	0.06	40.07	0.55	980.0	1.17	1.23	1.28
1000.0	3.63	3.71	0.08	45.49	0.51	1000.0	1.15	1.23	1.28

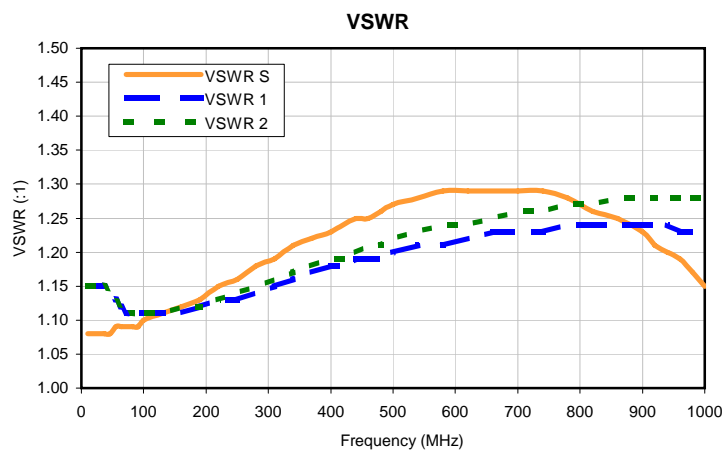
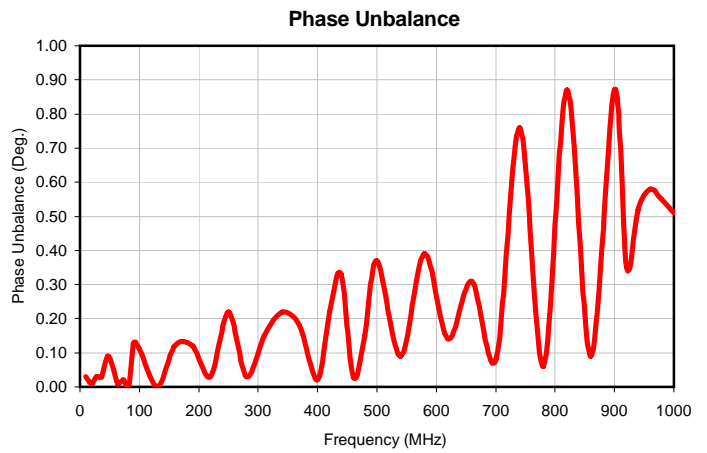
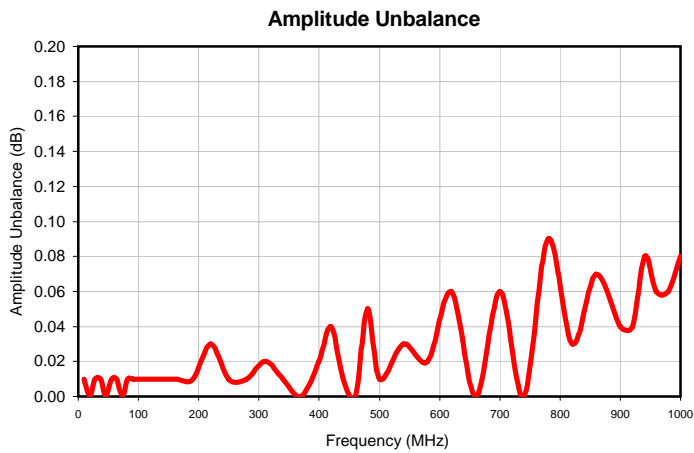
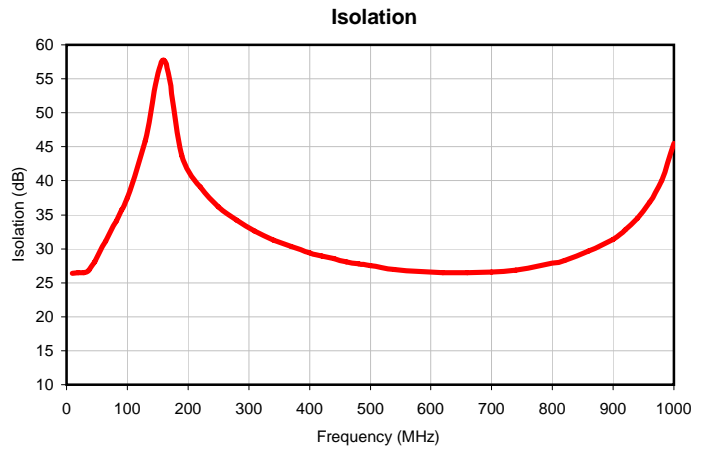
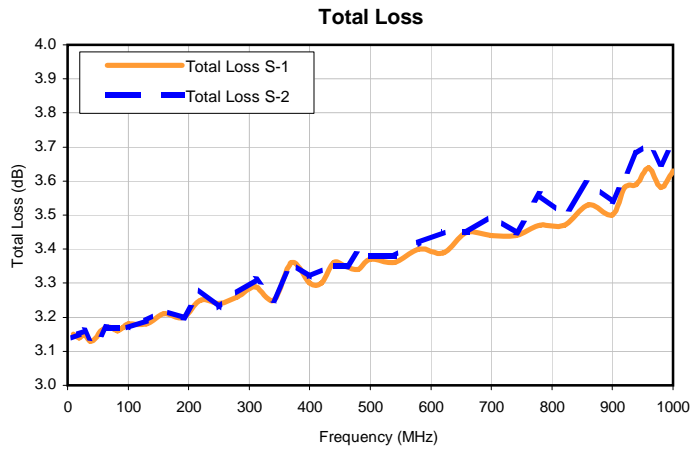
<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss



# 2 Way-0° Power Splitter/Combiner

# ZFSC-2-2+

## Typical Performance Curves



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The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: [www.minicircuits.com](http://www.minicircuits.com)



IF/RF MICROWAVE COMPONENTS

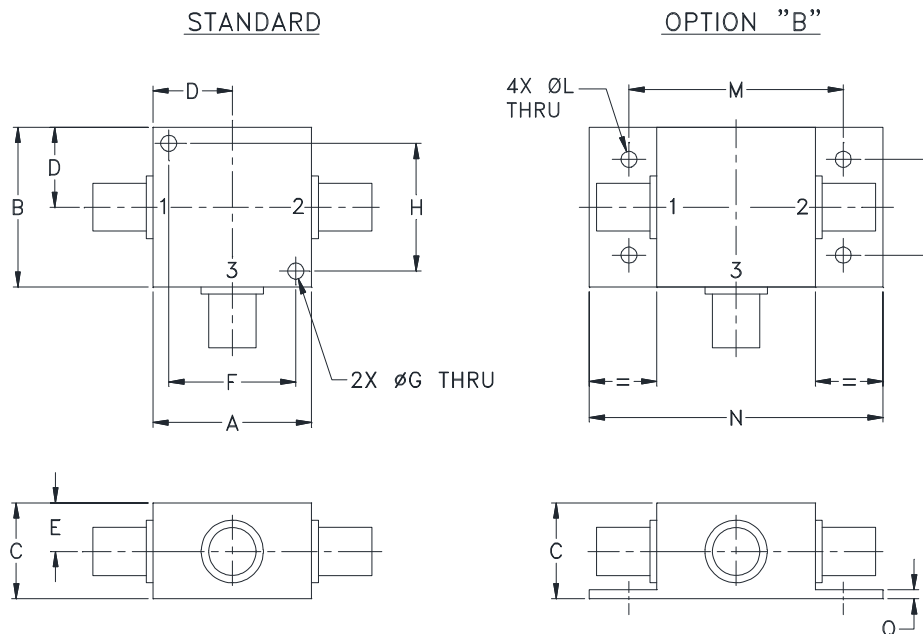
REV. X2  
ZFSC-2-2+  
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# Case Style

# K

## K18

### 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