

# Power Splitter/Combiner

## ZFSC-2-4+

2 Way-0° 50Ω 0.2 to 1000 MHz

### Maximum Ratings

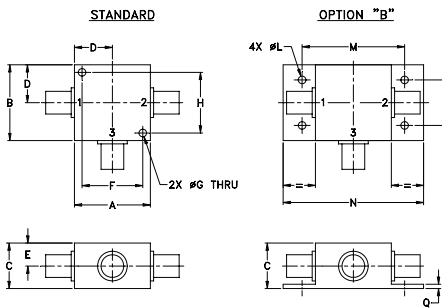
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.125W max.

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, 0.2 to 1000 MHz
- low insertion loss, 0.5 dB typ.
- good isolation, 25 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 0.5 deg. typ.
- rugged shielded case

### Applications

- cellular
- VHF/UHF
- instrumentation

Generic photo used for illustration purposes only  
CASE STYLE: K18



Connectors	Model
BNC	ZFSC-2-4+
SMA	ZFSC-2-4-S+
N-TYPE	ZFSC-2-4-N+
<b>BRACKET (OPTION "B")</b>	

### +RoHS Compliant

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

### Electrical Specifications

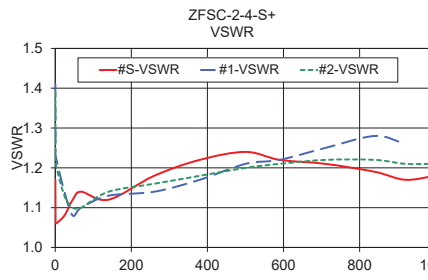
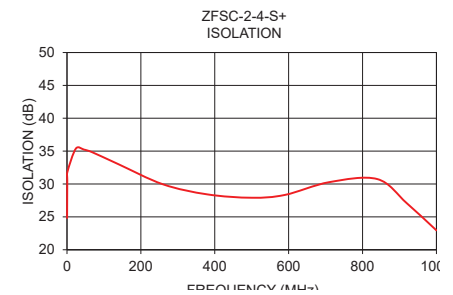
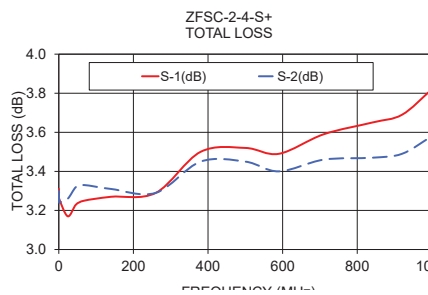
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3.0 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
$f_L$ - $f_U$	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.						
0.2-1000	20	15	25	20	23	18	0.2	0.8	0.5	1.0	0.9	1.2	2	4	4	0.15	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						
0.20	3.31	3.30	0.02	24.83	0.10	1.17	1.41	1.39
0.70	3.29	3.24	0.05	30.54	0.20	1.07	1.25	1.23
1.00	3.26	3.24	0.03	31.83	0.36	1.06	1.23	1.21
24.00	3.17	3.26	0.09	35.39	0.03	1.08	1.14	1.13
46.00	3.23	3.32	0.08	35.23	0.09	1.12	1.08	1.10
68.00	3.25	3.33	0.08	34.84	0.18	1.14	1.10	1.10
140.00	3.27	3.31	0.04	32.99	0.27	1.12	1.13	1.14
260.00	3.29	3.29	0.01	29.95	0.36	1.18	1.14	1.16
380.00	3.50	3.45	0.04	28.42	0.25	1.22	1.17	1.18
500.00	3.52	3.45	0.07	27.91	0.21	1.24	1.21	1.20
590.00	3.49	3.40	0.09	28.34	0.17	1.22	1.22	1.21
710.00	3.59	3.46	0.13	30.28	0.34	1.21	1.25	1.22
840.00	3.65	3.47	0.18	30.75	0.49	1.19	1.28	1.22
920.00	3.69	3.49	0.20	27.07	0.65	1.17	1.26	1.21
1000.00	3.82	3.58	0.24	22.95	0.81	1.18	1.27	1.21

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-2-4+

## Typical Performance Data

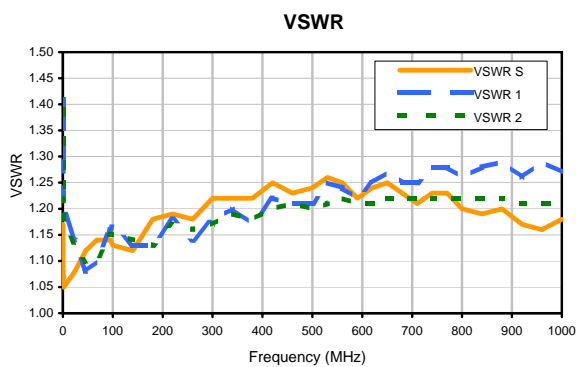
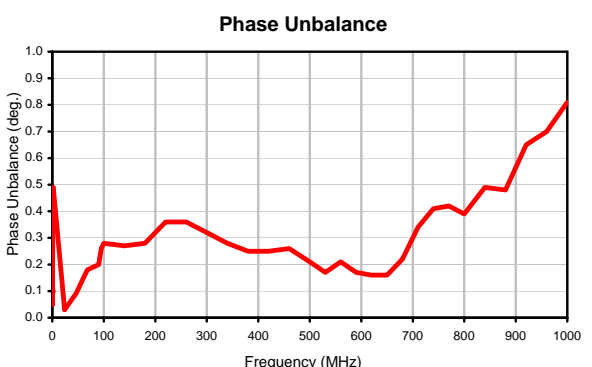
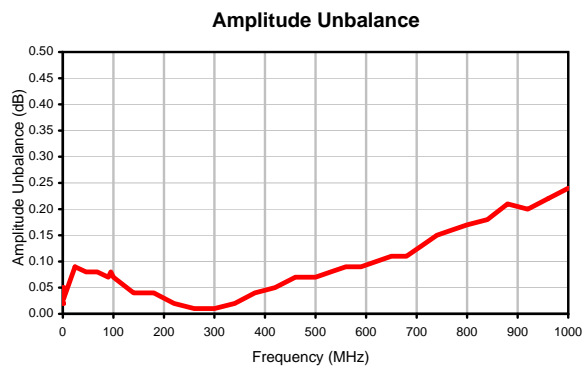
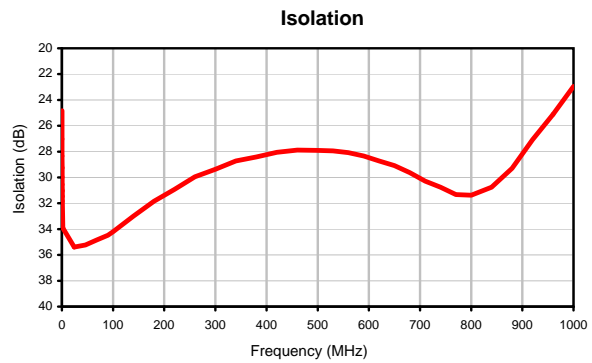
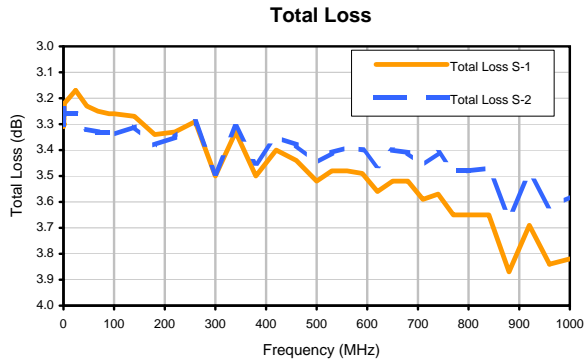
FREQ. (MHz)	TOTAL LOSS <sup>1</sup> (dB)		AMP. UNBAL. (dB)	ISOLATION (dB)	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
0.2	3.31	3.30	0.02	24.83	0.10	0.2	1.17	1.41	1.39
0.3	3.30	3.28	0.02	27.03	0.10	0.3	1.12	1.32	1.30
0.4	3.30	3.27	0.03	28.34	0.05	0.4	1.09	1.29	1.27
0.5	3.29	3.26	0.03	29.26	0.05	0.5	1.08	1.27	1.25
0.6	3.29	3.24	0.05	29.97	0.11	0.6	1.07	1.26	1.24
0.7	3.29	3.24	0.05	30.54	0.20	0.7	1.07	1.25	1.23
0.8	3.28	3.25	0.03	31.03	0.29	0.8	1.06	1.24	1.22
0.9	3.27	3.24	0.03	31.46	0.34	0.9	1.06	1.23	1.21
1.0	3.26	3.24	0.03	31.83	0.36	1.0	1.06	1.23	1.21
2.0	3.22	3.26	0.03	33.92	0.49	2.0	1.05	1.20	1.18
24.0	3.17	3.26	0.09	35.39	0.03	24.0	1.08	1.14	1.13
46.0	3.23	3.32	0.08	35.23	0.09	46.0	1.12	1.08	1.10
68.0	3.25	3.33	0.08	34.84	0.18	68.0	1.14	1.10	1.10
90.0	3.26	3.33	0.07	34.47	0.20	90.0	1.14	1.15	1.14
95.0	3.26	3.34	0.08	34.34	0.26	95.0	1.14	1.16	1.15
100.0	3.26	3.34	0.07	34.20	0.28	100.0	1.13	1.17	1.15
140.0	3.27	3.31	0.04	32.99	0.27	140.0	1.12	1.13	1.14
180.0	3.34	3.38	0.04	31.85	0.28	180.0	1.18	1.13	1.13
220.0	3.33	3.35	0.02	30.93	0.36	220.0	1.19	1.18	1.17
260.0	3.29	3.29	0.01	29.95	0.36	260.0	1.18	1.14	1.16
300.0	3.50	3.49	0.01	29.37	0.32	300.0	1.22	1.18	1.17
340.0	3.33	3.31	0.02	28.72	0.28	340.0	1.22	1.20	1.19
380.0	3.50	3.45	0.04	28.42	0.25	380.0	1.22	1.17	1.18
420.0	3.40	3.35	0.05	28.06	0.25	420.0	1.25	1.22	1.20
460.0	3.44	3.38	0.07	27.88	0.26	460.0	1.23	1.21	1.21
500.0	3.52	3.45	0.07	27.91	0.21	500.0	1.24	1.21	1.20
530.0	3.48	3.41	0.08	27.94	0.17	530.0	1.26	1.25	1.21
560.0	3.48	3.39	0.09	28.08	0.21	560.0	1.25	1.24	1.22
590.0	3.49	3.40	0.09	28.34	0.17	590.0	1.22	1.22	1.21
620.0	3.56	3.46	0.10	28.72	0.16	620.0	1.24	1.25	1.21
650.0	3.52	3.40	0.11	29.08	0.16	650.0	1.25	1.27	1.22
680.0	3.52	3.41	0.11	29.63	0.22	680.0	1.23	1.25	1.22
710.0	3.59	3.46	0.13	30.28	0.34	710.0	1.21	1.25	1.22
740.0	3.57	3.41	0.15	30.76	0.41	740.0	1.23	1.28	1.22
770.0	3.65	3.48	0.16	31.32	0.42	770.0	1.23	1.28	1.22
800.0	3.65	3.48	0.17	31.37	0.39	800.0	1.20	1.26	1.22
840.0	3.65	3.47	0.18	30.75	0.49	840.0	1.19	1.28	1.22
880.0	3.87	3.66	0.21	29.29	0.48	880.0	1.20	1.29	1.22
920.0	3.69	3.49	0.20	27.07	0.65	920.0	1.17	1.26	1.21
960.0	3.84	3.62	0.22	25.12	0.70	960.0	1.16	1.29	1.21
1000.0	3.82	3.58	0.24	22.95	0.81	1000.0	1.18	1.27	1.21

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

# 2 Way-0° Power Splitter/Combiner

# ZFSC-2-4+

## Typical Performance Curves



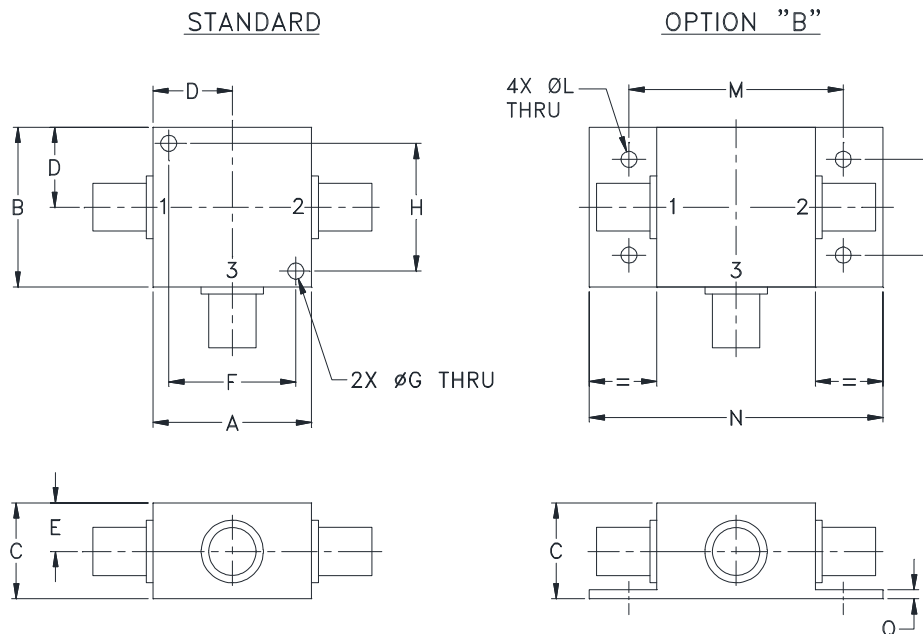
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Page 1 of 1

# 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