

Coaxial

# Power Splitter/Combiner

## ZFSCJ-2-1+

2 Way-180° 50Ω 1 to 500 MHz



Generic photo used for illustration purposes only

CASE STYLE: K18

Connectors	Model
BNC	ZFSCJ-2-1
SMA	ZFSCJ-2-1-S+
N-TYPE	ZFSCJ-2-1-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(S)	3
PORT 1	1
PORT 2	2

### Features

- wideband, 1 to 500 MHz
- high isolation, 30 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- excellent phase unbalance, 1 deg. typ.
- rugged shielded case

### Applications

- VHF/UHF
- signal processing

### Electrical Specifications

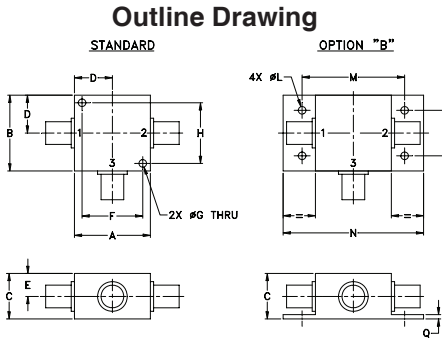
FREQ. RANGE (MHz)	ISOLATION (dB)						INSERTION LOSS (dB) ABOVE 3.0 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L	M	U	L	M	U
	Typ.	Min	Typ.	Min	Typ.	Min	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
$f_L$ - $f_U$																		
1-500	30	20	33	25	30	18	1.0	1.5	1.0	1.5	1.0	1.5	2	4	7	0.5	0.2	0.5

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	3.97	3.95	0.02	30.26	179.94	1.27	1.34	1.34
20.96	3.65	3.65	0.00	37.10	180.23	1.03	1.18	1.18
40.92	3.70	3.70	0.00	40.24	180.39	1.03	1.17	1.18
80.84	3.77	3.76	0.00	32.16	181.09	1.09	1.17	1.18
120.76	3.76	3.78	0.02	29.60	181.43	1.06	1.18	1.20
160.68	3.77	3.80	0.03	29.99	181.76	1.04	1.16	1.18
200.60	3.82	3.84	0.02	27.58	181.71	1.06	1.14	1.17
240.52	3.94	3.94	0.01	26.07	181.79	1.15	1.13	1.17
280.44	3.93	3.95	0.02	25.65	181.93	1.17	1.11	1.16
320.36	3.89	3.94	0.05	24.22	181.89	1.11	1.13	1.14
360.28	3.94	3.99	0.05	23.37	181.49	1.11	1.15	1.14
400.20	4.09	4.11	0.03	22.87	180.85	1.21	1.19	1.13
440.12	4.13	4.13	0.00	22.19	180.17	1.24	1.24	1.12
480.04	4.14	4.13	0.01	22.33	179.57	1.19	1.28	1.12
500.00	4.19	4.17	0.03	22.51	179.34	1.19	1.31	1.11

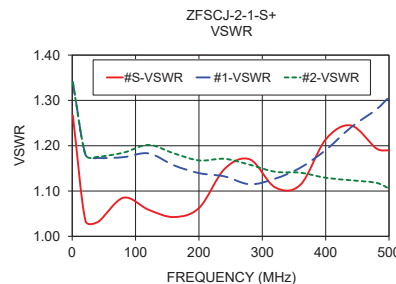
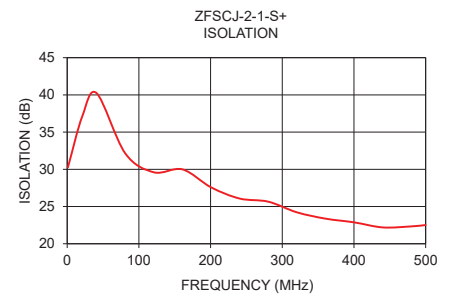
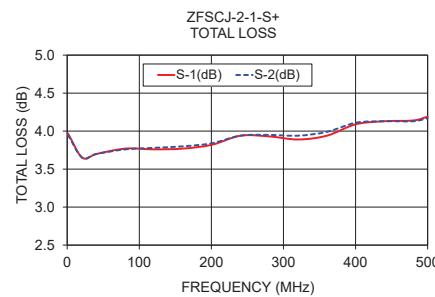
1. Total Loss = Insertion Loss + 3dB splitter theoretical loss.



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
1.25	1.25	.75	.63	.38	1.00	.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	70.0

For bracket version, Option B dimension "C" changes from 0.75 to 0.94 inch when connectors are Type N.



### 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.
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M151107  
ZFSCJ-2-1+  
HY/TD/CP/AM  
151020

# 2 Way-180° Power Splitter/Combiner

# ZFSCJ-2-1+

## Typical Performance Data

FREQUENCY (MHz)	TOTAL LOSS <sup>1</sup> (dB)		AMPLITUDE UNBALANCE (dB)	ISOLATION (dB) 1-2	PHASE UNBALANCE (deg.)	FREQUENCY (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
1.0	3.97	3.95	0.02	30.26	179.94	1.0	1.27	1.34	1.34
21.0	3.65	3.65	0.00	37.10	180.23	21.0	1.03	1.18	1.18
40.9	3.70	3.70	0.00	40.24	180.39	40.9	1.03	1.17	1.18
80.8	3.77	3.76	0.00	32.16	181.09	80.8	1.09	1.17	1.18
120.8	3.76	3.78	0.02	29.60	181.43	120.8	1.06	1.18	1.20
160.7	3.77	3.80	0.03	29.99	181.76	160.7	1.04	1.16	1.18
200.6	3.82	3.84	0.02	27.58	181.71	200.6	1.06	1.14	1.17
240.5	3.94	3.94	0.01	26.07	181.79	240.5	1.15	1.13	1.17
280.4	3.93	3.95	0.02	25.65	181.93	280.4	1.17	1.11	1.16
320.4	3.89	3.94	0.05	24.22	181.89	320.4	1.11	1.13	1.14
360.3	3.94	3.99	0.05	23.37	181.49	360.3	1.11	1.15	1.14
400.2	4.09	4.11	0.03	22.87	180.85	400.2	1.21	1.19	1.13
440.1	4.13	4.13	0.00	22.19	180.17	440.1	1.24	1.24	1.12
480.0	4.14	4.13	0.01	22.33	179.57	480.0	1.19	1.28	1.12
500.0	4.19	4.17	0.03	22.51	179.34	500.0	1.19	1.31	1.11

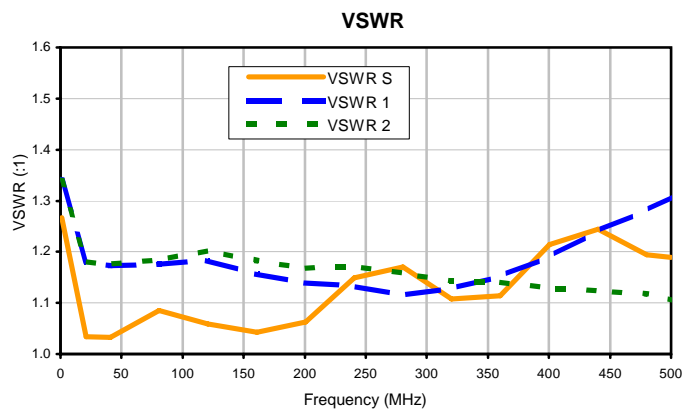
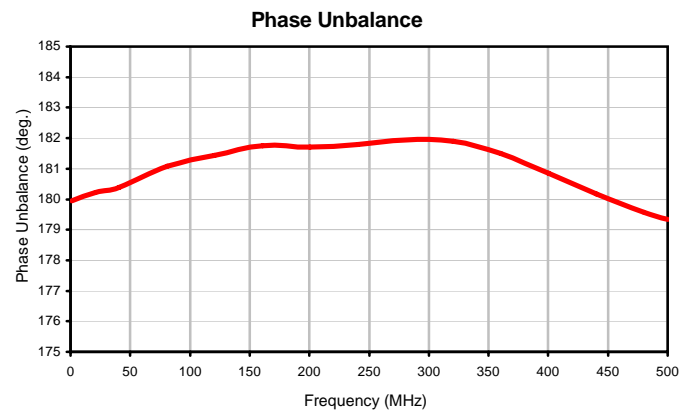
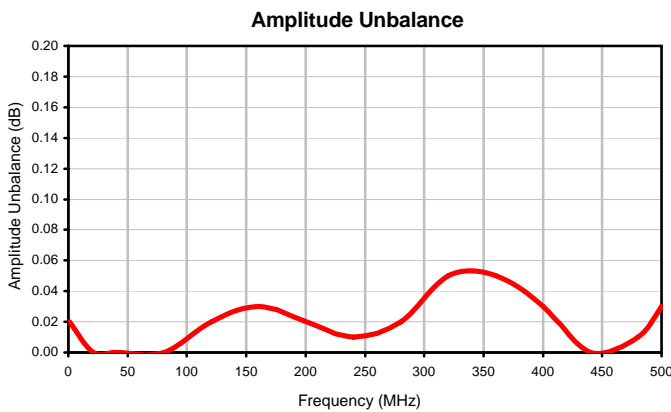
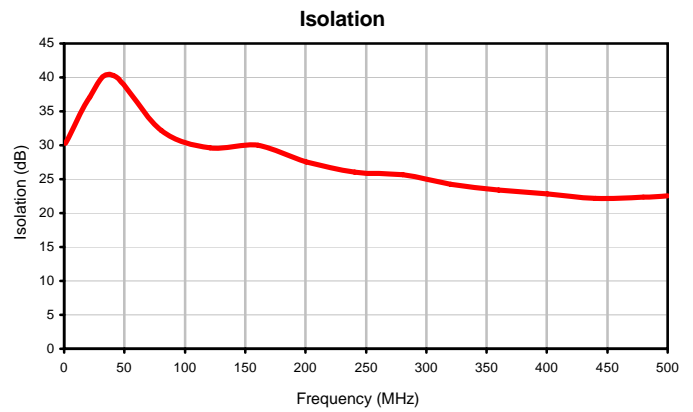
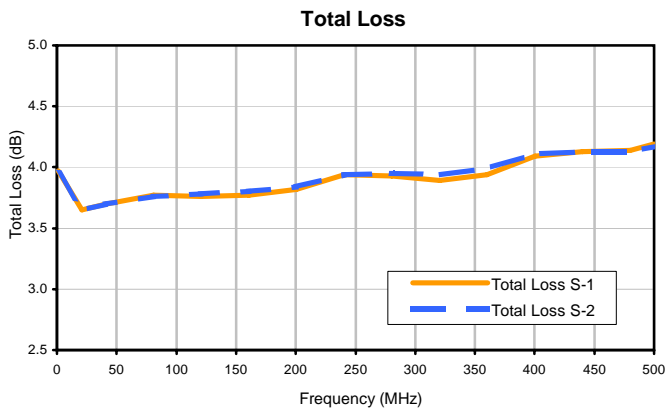
<sup>1</sup>Total Loss = Insertion Loss + 3dB Splitter Loss



# 2 Way-180° Power Splitter/Combiner

# ZFSCJ-2-1+

## Typical Performance Curves

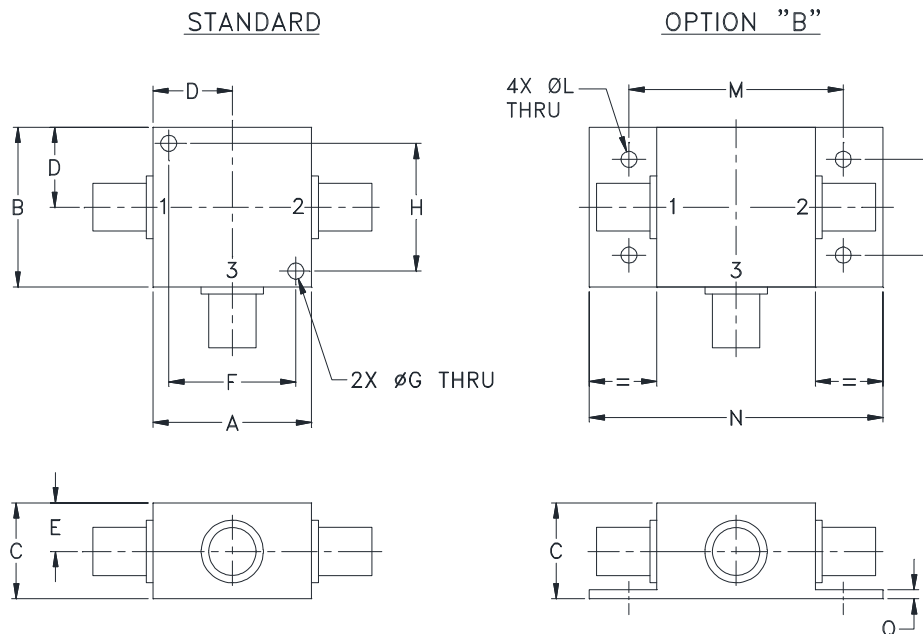


# Case Style

# 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