Engineering Development Model

Directional Coupler ZFDC-ED13361/1

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability.
At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : K18

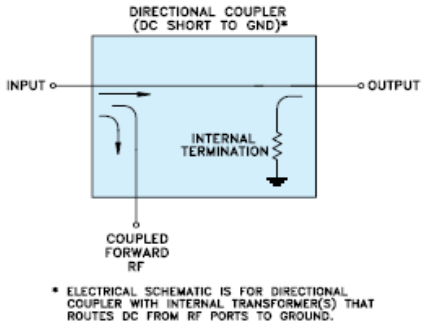
ELECTRICAL SPECIFICATIONS 50 Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		1		2100	MHz
Coupling	**Nominal**		10.3±0.5		dB
	Flatness		±0.5		dB
Mainline Loss*	**1-10 MHz**		1.45		dB
	10-1050 MHz		1.40		dB
	1050-2100 MHz		1.80		dB
Directivity	**1-10 MHz**		25		dB
	10-1050 MHz		27		dB
	1050-2100 MHz		21		dB
VSWR	**1-2100 MHz**		1.15		(:1)
RF Power Input	**1-50 MHz**			0.50	W
	50-2100 MHz			1.00	

Note: * Mainline loss includes theoretical coupled power loss of .425 dB at 10.3 dB coupling.

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

COAXIAL CONNECTIONS	
INPUT	1
OUTPUT	2
COUPLED FORWARD	3

Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) THAT ROUTES DC FROM RF PORTS TO GROUND.

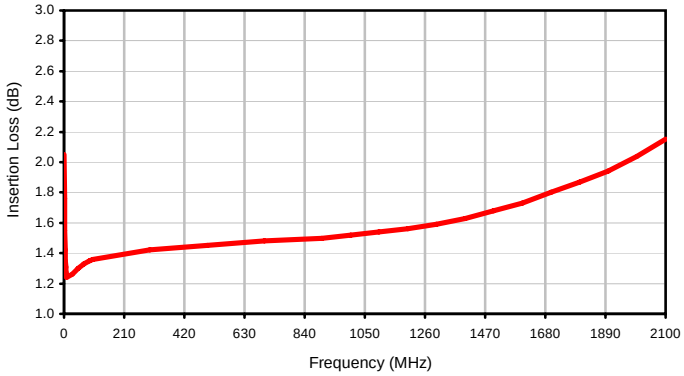
Directional Coupler ZFDC-ED13361/1

Typical Performance Data

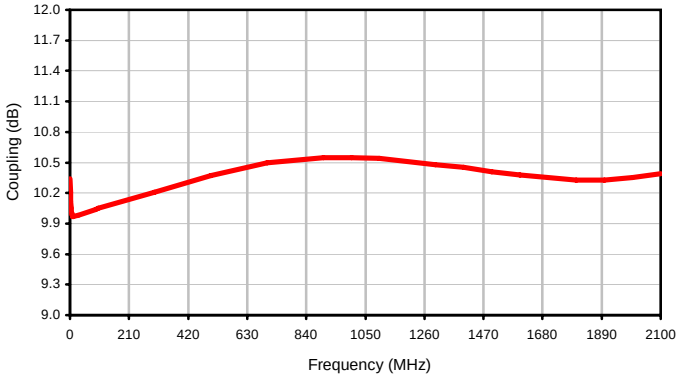
FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
1.0	2.05	10.34	21.82	13.01	15.25	15.33
2.0	1.76	10.21	23.91	14.41	17.68	17.85
3.0	1.55	10.12	25.01	15.51	19.71	19.91
4.0	1.42	10.05	25.62	16.31	21.54	21.75
5.0	1.35	10.02	26.03	16.89	23.20	23.36
6.0	1.31	10.00	26.28	17.28	24.57	24.80
7.0	1.28	9.99	26.54	17.57	25.81	26.08
8.0	1.26	9.98	26.67	17.76	26.95	27.24
9.0	1.25	9.97	26.78	17.90	27.97	28.29
10.0	1.24	9.97	26.97	18.01	28.81	29.28
30.0	1.26	9.98	28.08	18.24	34.89	38.68
50.0	1.30	10.00	28.78	18.15	34.02	37.83
70.0	1.33	10.02	29.22	18.13	33.45	36.43
90.0	1.35	10.04	29.51	18.14	33.13	35.27
100.0	1.36	10.05	29.62	18.16	33.05	34.72
300.0	1.42	10.21	30.43	19.23	31.91	28.93
500.0	1.45	10.37	29.84	21.35	30.11	26.12
700.0	1.48	10.50	28.46	25.02	28.11	25.05
900.0	1.50	10.55	25.88	31.23	26.86	25.04
1000.0	1.52	10.55	24.84	39.86	25.90	25.50
1100.0	1.54	10.54	23.96	42.42	25.05	26.12
1200.0	1.56	10.51	23.23	32.54	24.22	26.90
1300.0	1.59	10.48	22.45	27.54	23.28	28.04
1400.0	1.63	10.45	22.06	24.39	22.25	29.57
1500.0	1.68	10.41	21.69	22.13	21.37	30.94
1600.0	1.73	10.38	21.35	20.52	20.56	31.72
1700.0	1.80	10.35	21.17	18.90	19.59	30.87
1800.0	1.87	10.33	20.99	17.71	18.85	28.94
1900.0	1.94	10.33	20.72	16.75	18.36	26.34
2000.0	2.04	10.35	20.52	15.64	17.57	23.96
2100.0	2.15	10.39	19.97	14.73	17.09	21.76

Typical Performance Curves

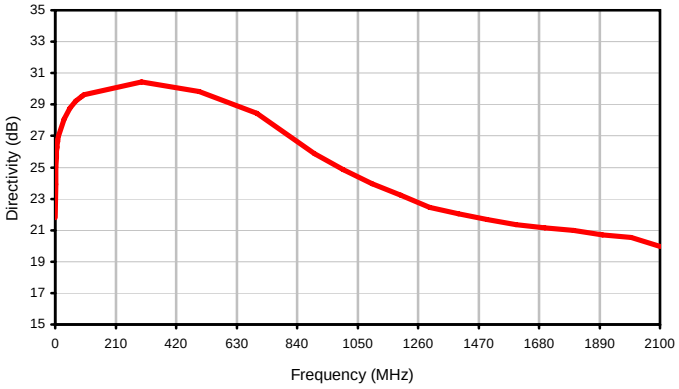
Insertion Loss



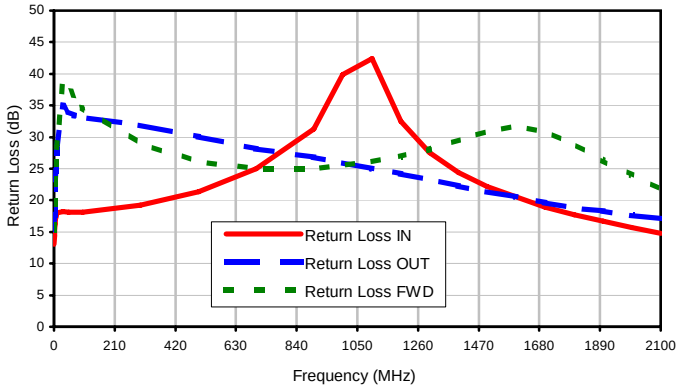
Coupling



Directivity



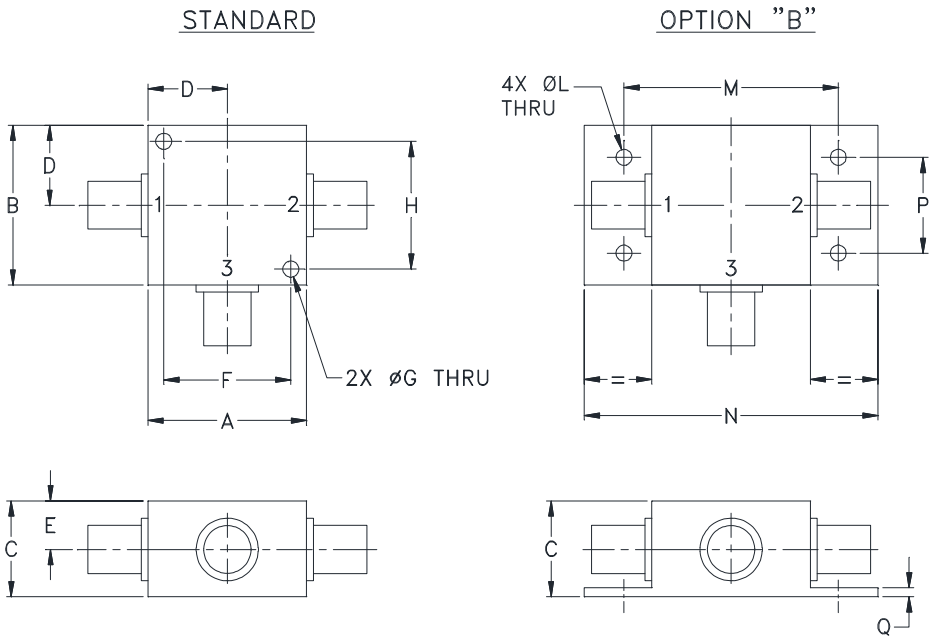
Return Loss



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. ± .03; 3 Pl. ± .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 port marking 1, 2, and 3 see specifications data sheet.
5. For bracket version, option B, dimension "C" changes from .75 to .94 inches when connectors are type N.
6. Refer to the individual model data sheet for the type of connectors available.

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Environmental Specifications ENV28

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	-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

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