

Engineering Development Model

Directional Coupler

ZFDC-ED13365/1

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.

BNC VERSION SHOWN
CASE STYLE : K18

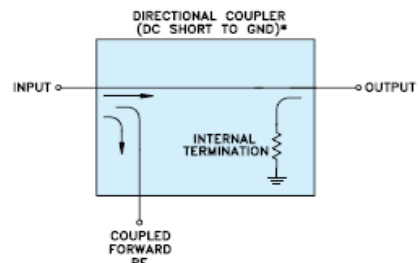
ELECTRICAL SPECIFICATIONS 50 Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		6		3000	MHz
Coupling	Nominal		20.9 $\pm$ 1		dB
	Flatness		1.5		dB
Mainline Loss*	6-60 MHz		0.40		dB
	60-1500 MHz		0.50		dB
	1500-3000 MHz		1.10		dB
Directivity	6-60 MHz		26		dB
	60-1500 MHz		24		dB
	1500-3000 MHz		20		dB
VSWR (Input & Output)	6-3000 MHz		1.25		(:1)
VSWR (CPL)	6-3000 MHz		1.50		(:1)
RF Power Input	6-3000 MHz			1	W

Note: * Mainline loss includes theoretical coupled power loss of .035 dB at 20.9 dB coupling.

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

COAXIAL CONNECTIONS	
INPUT	3
OUTPUT	1
COUPLED	2

Electrical Schematic



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

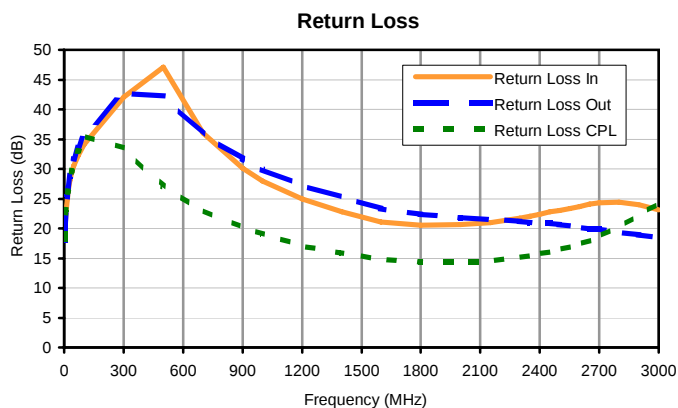
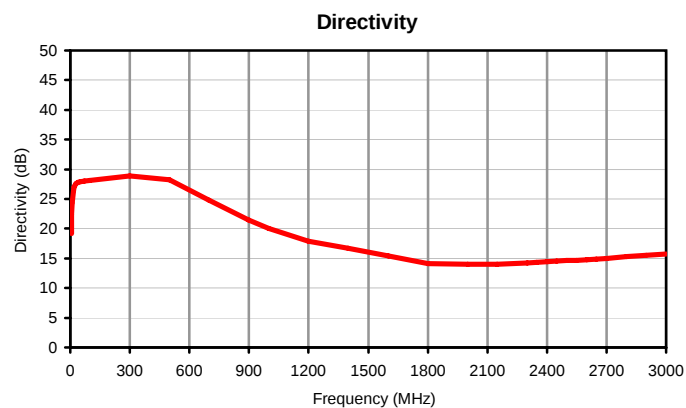
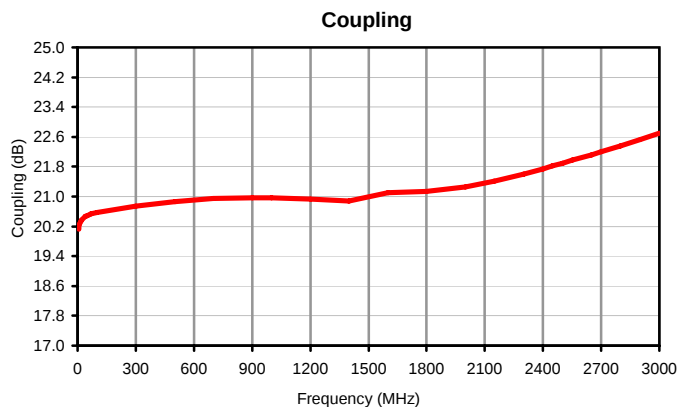
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Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS		
				(dB)		
				IN	OUT	CPL
5.0	0.30	20.13	19.17	18.00	17.92	18.27
7.5	0.34	20.23	22.42	21.19	21.26	21.38
10.0	0.37	20.27	24.35	22.91	23.12	23.09
15.0	0.38	20.33	26.26	24.85	25.25	25.03
20.0	0.38	20.37	27.01	26.17	26.70	26.28
30.0	0.37	20.42	27.64	28.09	28.84	28.15
40.0	0.37	20.46	27.82	29.48	30.42	29.64
50.0	0.38	20.48	27.94	30.54	31.62	30.90
70.0	0.38	20.53	28.07	32.21	33.50	33.02
100.0	0.38	20.57	28.17	34.13	35.74	35.62
300.0	0.43	20.74	28.90	42.00	42.67	33.39
500.0	0.48	20.87	28.19	47.07	42.22	27.05
700.0	0.53	20.94	24.81	36.00	35.94	23.03
900.0	0.59	20.96	21.45	30.08	31.68	20.15
1000.0	0.64	20.96	20.03	27.99	29.92	18.99
1200.0	0.72	20.93	17.91	24.92	27.16	17.12
1400.0	0.82	20.88	16.72	22.77	25.22	15.78
1600.0	0.95	21.11	15.38	21.03	23.34	14.81
1800.0	1.03	21.13	14.07	20.53	22.41	14.31
2000.0	1.13	21.26	13.97	20.60	21.87	14.25
2150.0	1.19	21.41	14.04	20.96	21.47	14.56
2300.0	1.24	21.60	14.20	21.68	21.15	15.11
2350.0	1.26	21.67	14.28	22.01	21.01	15.37
2400.0	1.27	21.74	14.39	22.35	20.91	15.68
2450.0	1.29	21.82	14.52	22.77	20.82	16.02
2500.0	1.31	21.90	14.63	23.06	20.67	16.44
2550.0	1.33	21.98	14.69	23.37	20.40	16.89
2600.0	1.34	22.05	14.72	23.70	20.21	17.43
2650.0	1.35	22.12	14.89	24.05	19.92	17.97
2700.0	1.36	22.20	15.02	24.27	19.86	18.67
2800.0	1.39	22.36	15.30	24.40	19.40	20.23
2900.0	1.43	22.53	15.56	24.00	18.90	22.22
3000.0	1.47	22.70	15.78	23.09	18.38	24.33

Typical Performance Curves



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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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