

Directional Coupler

ZADC-ED16176/1

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.

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CASE STYLE : CC51-1

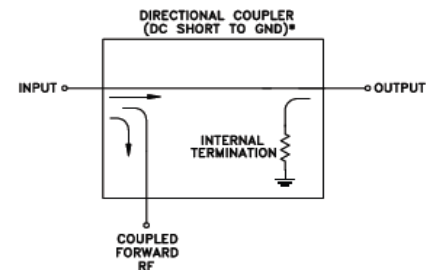
ELECTRICAL SPECIFICATIONS 75/50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency		5		100	MHz
Coupling	Nominal		20.3 +/-0.5		dB
	Flatness		+/-0.3		dB
Mainline Loss *	5 MHz		0.1		dB
	100 MHz		0.2		dB
Directivity	5 MHz		16		dB
	100 MHz		12		dB
VSWR	5-100 MHZ		1.2		(:1)
RF Power Input	5-100 MHZ			2	W

Note: * Mainline loss includes theoretical coupled power loss of 0.039dB at 20.5dB coupling.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

COAXIAL CONNECTIONS	
INPUT (75 Ω, N female)	1
OUTPUT (75 Ω, N female)	3
COUPLED (50 Ω, SMA female)	2

Electrical Schematic



Directional Coupler

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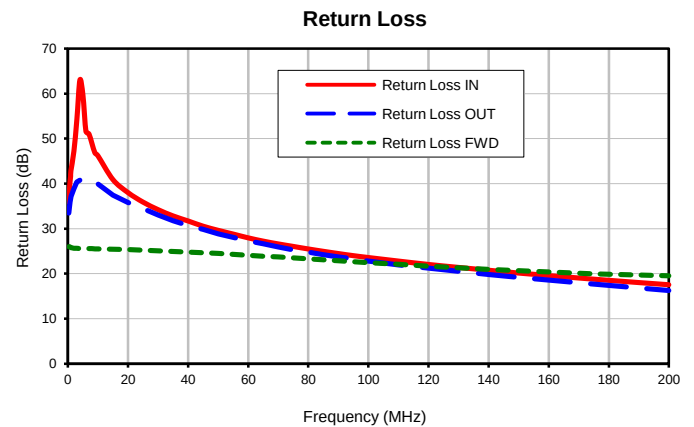
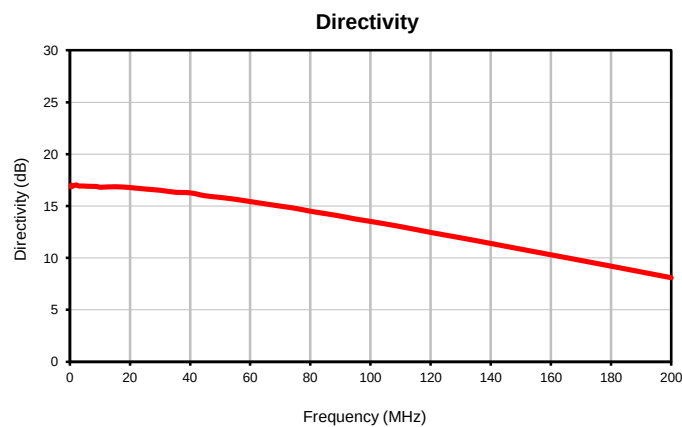
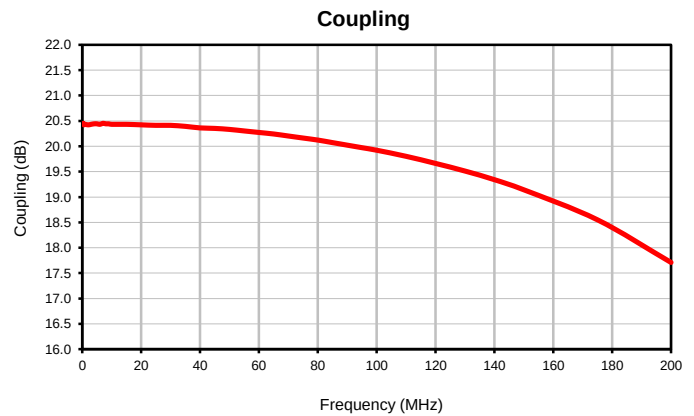
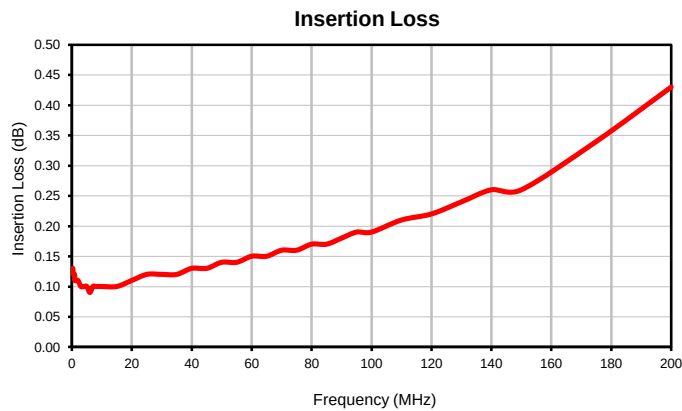
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	COUPLING (dB)	DIRECTIVITY (dB)	RETURN LOSS (dB)		
				IN	OUT	CPL
0.30	0.13	20.45	16.86	35.86	33.45	26.01
0.50	0.12	20.42	17.03	38.42	34.73	25.99
0.70	0.12	20.43	16.95	40.35	35.92	25.89
0.90	0.12	20.43	16.94	41.62	36.75	25.79
1.00	0.11	20.43	16.93	42.85	37.18	25.76
2.00	0.11	20.42	17.04	47.21	38.85	25.66
3.00	0.10	20.43	16.94	54.34	40.32	25.62
4.00	0.10	20.44	16.94	63.02	40.78	25.60
5.00	0.10	20.44	16.93	59.65	40.44	25.56
6.00	0.09	20.43	16.91	51.65	40.54	25.56
7.00	0.10	20.45	16.91	51.07	40.30	25.55
8.00	0.10	20.44	16.90	48.93	39.85	25.54
9.00	0.10	20.44	16.89	46.83	39.57	25.53
10.00	0.10	20.43	16.82	46.18	39.91	25.52
15.00	0.10	20.43	16.87	40.89	37.41	25.44
20.00	0.11	20.42	16.79	38.01	35.79	25.34
25.00	0.12	20.41	16.65	35.90	34.42	25.23
30.00	0.12	20.41	16.53	34.23	33.00	25.10
35.00	0.12	20.39	16.34	32.83	31.77	24.96
40.00	0.13	20.36	16.28	31.71	30.66	24.80
45.00	0.13	20.35	16.00	30.55	29.80	24.64
50.00	0.14	20.33	15.84	29.63	28.84	24.47
55.00	0.14	20.30	15.66	28.80	28.03	24.28
60.00	0.15	20.27	15.44	27.96	27.29	24.08
65.00	0.15	20.24	15.22	27.23	26.60	23.88
70.00	0.16	20.20	15.00	26.61	25.94	23.69
75.00	0.16	20.16	14.79	26.05	25.31	23.49
80.00	0.17	20.12	14.51	25.49	24.77	23.28
85.00	0.17	20.07	14.28	24.97	24.21	23.08
90.00	0.18	20.02	14.04	24.47	23.72	22.86
95.00	0.19	19.97	13.76	24.00	23.27	22.66
100.00	0.19	19.92	13.53	23.59	22.83	22.46
110.00	0.21	19.80	13.03	22.80	21.95	22.06
120.00	0.22	19.66	12.47	22.05	21.25	21.68
130.00	0.24	19.51	11.95	21.39	20.53	21.32
140.00	0.26	19.34	11.41	20.77	19.83	20.98
150.00	0.26	19.14	10.86	20.14	19.19	20.65
175.00	0.34	18.55	9.50	18.78	17.67	19.96
200.00	0.43	17.71	8.11	17.54	16.23	19.50

Directional Coupler

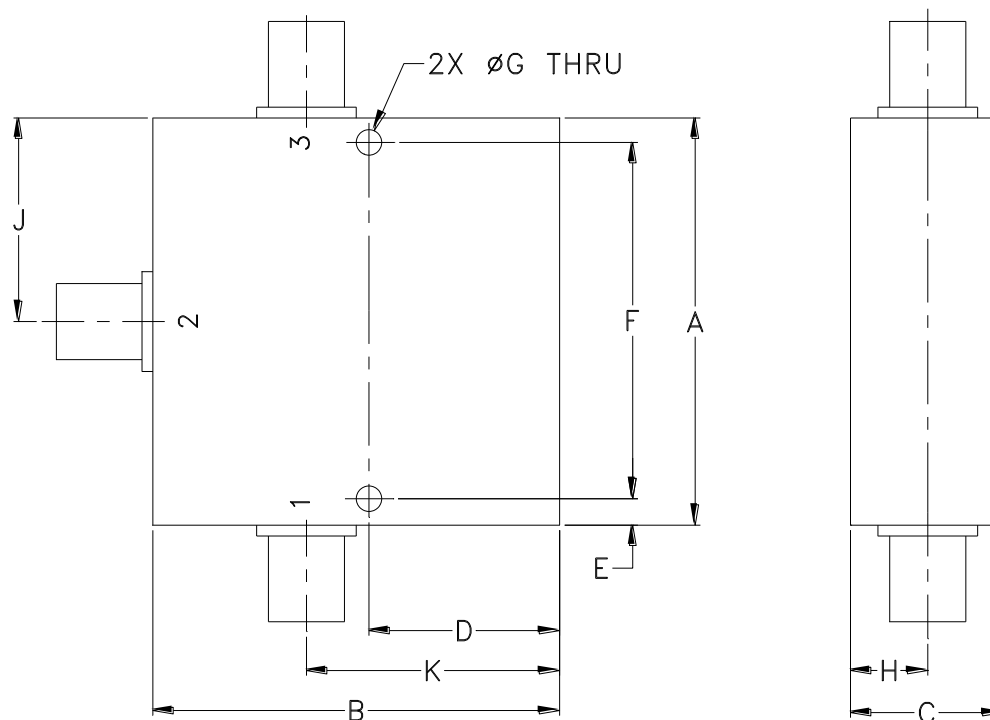
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Typical Performance Curves



Outline Dimensions

CC51-1



CASE#	A	B	C	D	E	F	G	H	J	K	WT. GRAMS
CC51-1	2.00 (50.80)	2.00 (50.80)	.75 (19.05)	.938 (23.83)	.13 (3.30)	1.750 (44.45)	.125 (3.17)	.38 (9.65)	1.00 (25.40)	1.25 (31.75)	145

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.
- Refer to the individual model data sheet for the type of connectors available.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



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RF/IF MICROWAVE COMPONENTS



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	-40° to 85°C	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