

Surface Mount Directional Coupler

50Ω 5 to 1000 MHz

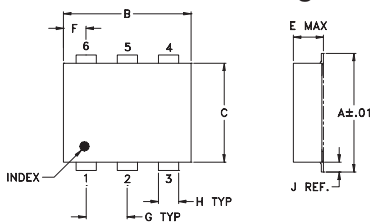
Maximum Ratings

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

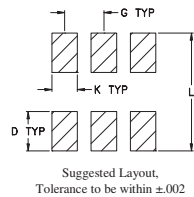
Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2
50Ω TERM EXTERNAL	4
ISOLATE (DO NOT USE)	5

Outline Drawing



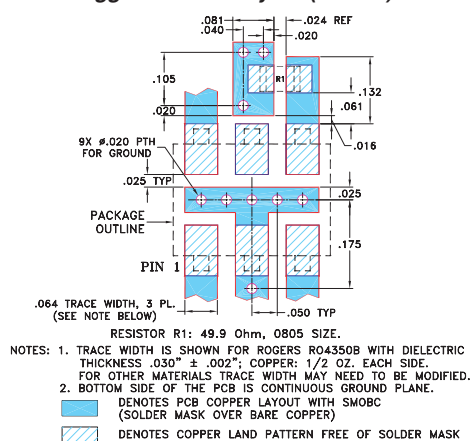
PCB Land Pattern



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.112	.055	.100
6.91	7.87	5.59	2.54	2.84	1.40	2.54
H	J	K	L	wt		
.030	.026	.065	.300	grams		
0.76	0.66	1.65	7.62	0.20		

Demo Board MCL P/N: TB-05 Suggested PCB Layout (PL-095)



Features

- wideband, 5-1000 MHz
- low mainline loss, 0.8 dB typ.
- high directivity, 40 dB typ.
- aqueous washable
- protected by U.S Patents 6,133,525 & 6,140,887

Applications

- communications
- cable tv

Directional Coupler Electrical Specifications

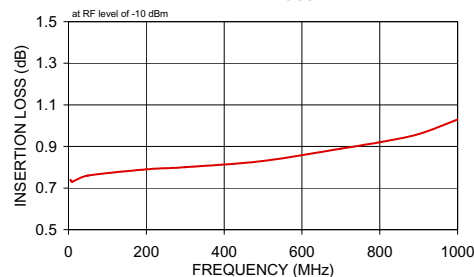
FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)			DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W							
	Nom.	Flatness	L Typ.	M Typ.	U Typ.	L Typ.	M Typ.	U Typ.		L Max.	MU Max.						
f _L -f _U																	
5-1000	10.5±0.5	±1.0	0.8	1.3	0.8	1.2	1.0	1.5	40	23	40	20	25	13	1.2	1	1

L= 5-50 MHz M= 50-500 MHz U= 500-1000 MHz
1. Mainline loss includes theoretical power loss at coupled port.

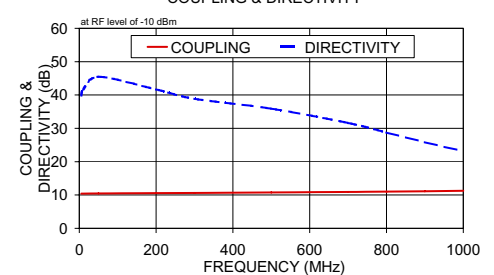
Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		Cpl
				In	Out	
5.00	0.74	10.44	39.83	23.72	31.43	20.70
10.00	0.73	10.43	41.65	24.20	32.13	21.20
50.00	0.76	10.48	45.47	24.43	32.57	21.30
200.00	0.79	10.55	41.69	25.51	31.16	21.29
300.00	0.80	10.60	38.88	26.39	30.23	20.91
500.00	0.83	10.76	35.93	26.67	28.20	19.60
700.00	0.89	10.92	31.62	23.71	25.20	16.74
800.00	0.92	11.00	28.76	21.88	23.31	15.37
900.00	0.96	11.12	25.83	20.21	21.32	14.15
1000.00	1.03	11.25	23.20	18.78	19.45	13.03

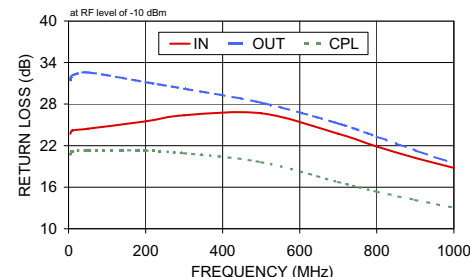
ADC-10-4
MAINLINE LOSS



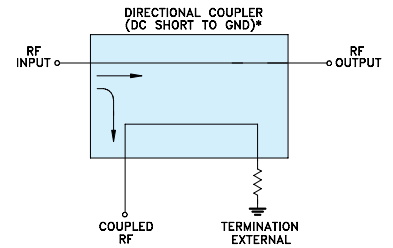
ADC-10-4
COUPLING & DIRECTIVITY



ADC-10-4
RETURN LOSS



Electrical Schematic



* ELECTRICAL SCHEMATIC IS FOR DIRECTIONAL COUPLER WITH INTERNAL TRANSFORMER(S) AND EXTERNAL TERMINATION.

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IF/RF MICROWAVE COMPONENTS

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ED-6560/2
ADC-10-4
WZ/TD/CP/AM
081111