

# Surface Mount Directional Coupler

50Ω 5 to 1000 MHz

ADC-20-4+  
ADC-20-4



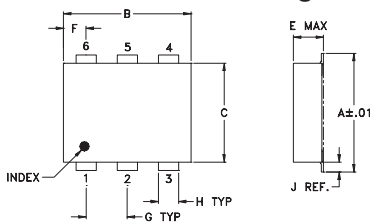
## Maximum Ratings

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

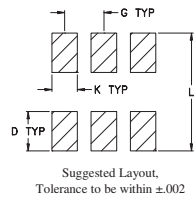
## Pin Connections

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

## Outline Drawing



## PCB Land Pattern



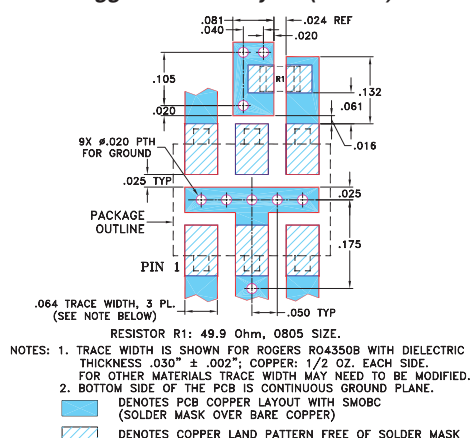
## Outline Dimensions (inch/mm)

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, 0.5 dB typ.
- high directivity, 21 dB typ.
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,140,887

## Applications

- cable tv
- communications

CASE STYLE: CD542  
PRICE:\$6.95 ea. QTY (10-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

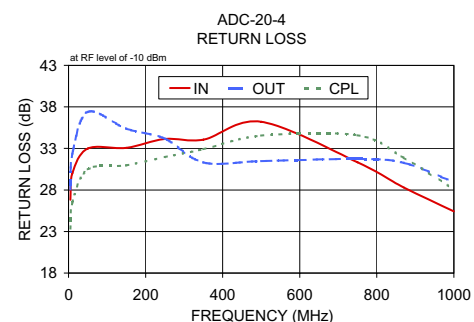
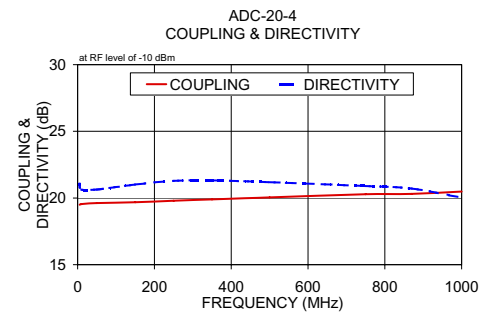
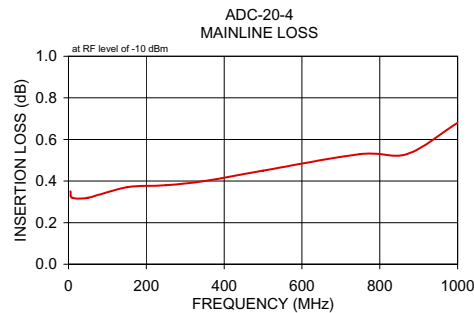
## Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)			DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W							
	Nom.	Flatness	L	M	U	L	M	U		Typ.	L Max.	MU Max.					
f <sub>c</sub> -f <sub>u</sub>			Typ.	Max.	Typ.	Max.	Typ.	Max.									
5-1000	20.0±0.5	±0.8	0.4	0.8	0.5	1.0	0.7	1.3	20	18	21	17	21	15	1.1	1.0	1.0

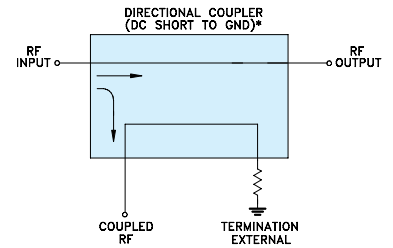
L= 5-50 MHz M= 50-500 MHz U= 500-1000 MHz  
1. Mainline loss includes theoretical power loss at coupled port.

## Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	0.35	19.49	21.07	26.82	28.08	23.37
10.00	0.32	19.55	20.63	30.04	32.37	26.49
50.00	0.32	19.62	20.64	32.99	37.40	30.48
150.00	0.37	19.68	21.01	33.06	35.38	30.96
250.00	0.38	19.80	21.28	34.14	34.19	31.95
350.00	0.40	19.89	21.32	34.05	31.30	32.90
500.00	0.45	20.05	21.18	36.20	31.48	34.55
750.00	0.53	20.28	20.90	31.32	31.73	34.59
870.00	0.53	20.31	20.71	28.29	31.27	31.88
1000.00	0.68	20.49	20.03	25.43	28.94	28.09



## 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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