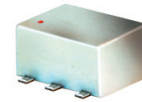


# Directional Coupler

## ADC-25-4-75+

75Ω

5 to 1000 MHz



### Maximum Ratings

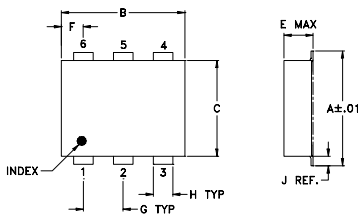
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

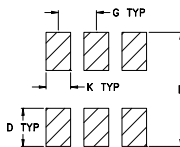
### Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2
75Ω TERM EXTERNAL	4
NOT USED	5

### Outline Drawing



### PCB Land Pattern

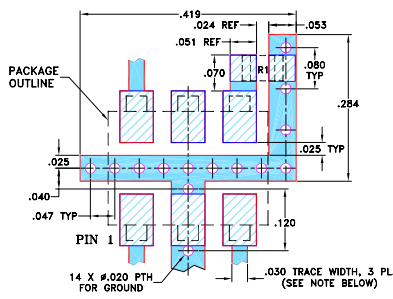


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.162	.055	.100
6.91	7.87	5.59	2.54	4.11	1.40	2.54
H	J	K	L	wt		
.030	.026	.065	.300	grams		
0.76	0.66	1.65	7.62	0.25		

### Demo Board MCL P/N: TB-08 Suggested PCB Layout (PL-042)



- RESISTOR R1: 75 Ohm, 0805 SIZE.
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
  - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
    - DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
    - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Features

- wideband, 5-1000 MHz
- low mainline loss, 0.3 dB typ.
- high coupling, 25 dB typ.
- excellent VSWR, 1.2:1 typ.
- aqueous washable
- protected by US patents 6,133,525 & 6,140,887

### Applications

- CATV

CASE STYLE: CD636

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

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

The +Suffix has been added in order to identify 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.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.		
5-1000	25±1.0	±2.0	0.1	0.5	0.1	0.4	0.3	0.7	27	13	25	14	20	12	1.2	0.5

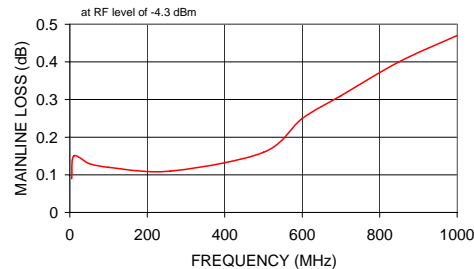
L= 5-50 MHz M= 50-500 MHz U= 500-1000 MHz

1. Mainline loss includes theoretical power loss at coupled port.

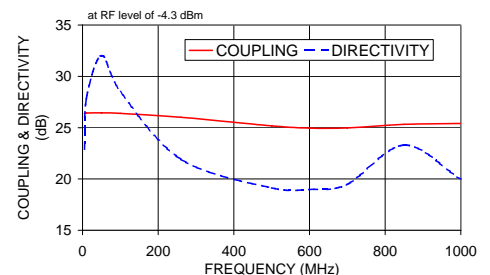
### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
5.00	0.09	26.38	22.91	22.68	22.47	22.43
10.00	0.15	26.42	27.82	28.87	28.63	28.52
50.00	0.13	26.44	32.03	38.74	37.83	38.85
100.00	0.12	26.39	28.51	44.75	38.86	37.28
260.00	0.11	26.01	21.92	31.00	30.67	25.64
500.00	0.16	25.18	19.14	30.93	27.38	21.21
600.00	0.25	24.96	18.98	33.03	26.45	20.18
700.00	0.31	24.98	19.48	31.89	26.89	19.63
850.00	0.40	25.33	23.30	28.69	30.04	19.36
1000.00	0.47	25.41	19.99	29.32	29.04	18.66

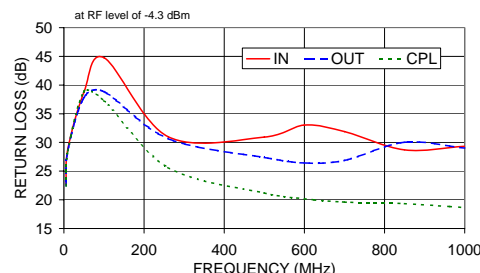
ADC-25-4-75+  
MAINLINE LOSS



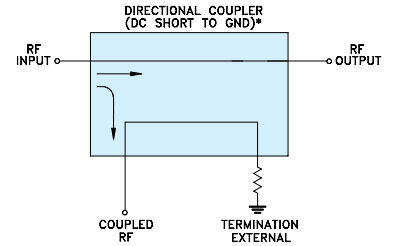
ADC-25-4-75+  
COUPLING & DIRECTIVITY



ADC-25-4-75+  
RETURN LOSS



### Electrical Schematic



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

For detailed performance specs & shipping information see web site



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

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REV. A  
M119986  
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090903