

# Surface Mount Directional Coupler

50Ω 10 to 500 MHz

## ADC-26-52+



CASE STYLE: CD636  
PRICE:\$7.95 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.

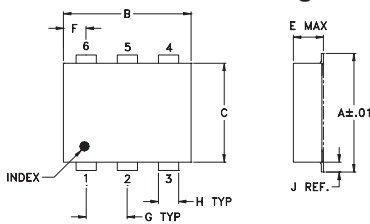
### Maximum Ratings

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

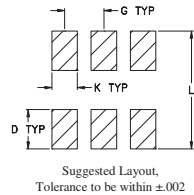
### Pin Connections

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

### Outline Drawing



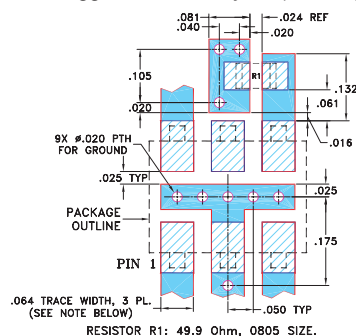
### PCB Land Pattern



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.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-05 Suggested PCB Layout (PL-095)



- NOTES: 1. 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.  
2. 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, 10-500 MHz
- low insertion loss, 0.2 dB typ.
- high directivity, 21 dB typ.
- aqueous washable
- protected by U.S Patents 6,133,525 & 6,140,887

### Applications

- VHF/UHF
- reflective power measurements
- communications
- signal sampling

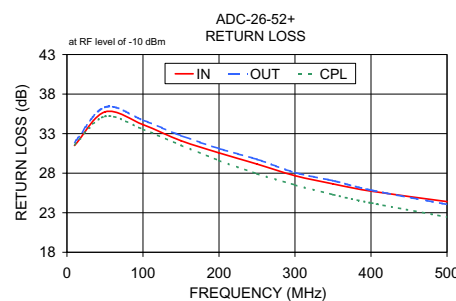
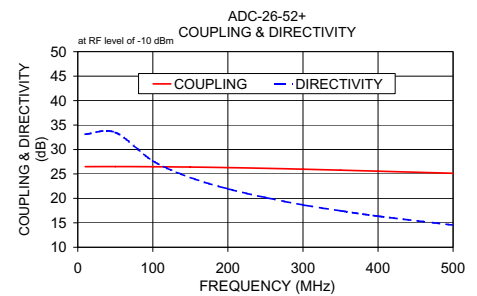
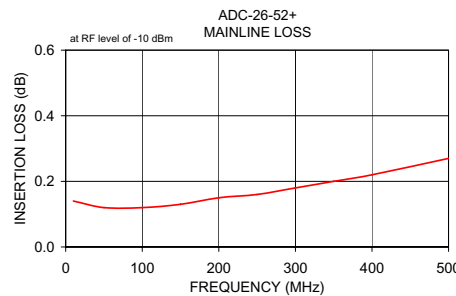
### Directional Coupler Electrical Specifications

FREQ. RANGE (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	MU					
f <sub>c</sub> -f <sub>u</sub>			Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.		
10-500	26.0±0.5	±0.9	0.15	0.25	0.2	0.3	0.3	0.5	35	22	25	16	18	11	1.1	5	5

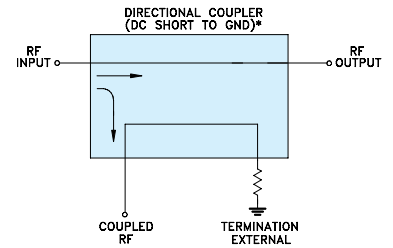
L= 10-100 MHz M= 100-250 MHz U= 250-500 MHz  
1. Mainline loss includes theoretical power loss at coupled port.

### Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)	Coupling (dB)	Directivity (dB)	Return Loss (dB)		
	In-Out			In	Out	Cpl
10.00	0.14	26.49	33.14	31.50	31.90	31.60
50.00	0.12	26.51	33.50	35.75	36.35	35.18
100.00	0.12	26.48	27.68	34.14	34.71	33.55
150.00	0.13	26.41	24.27	32.10	32.76	31.53
200.00	0.15	26.29	21.96	30.57	31.12	29.61
250.00	0.16	26.14	20.19	29.15	29.75	27.93
300.00	0.18	25.97	18.67	27.68	28.08	26.51
350.00	0.20	25.77	17.46	26.65	27.05	25.29
400.00	0.22	25.56	16.37	25.73	25.86	24.24
500.00	0.27	25.14	14.54	24.41	24.06	22.45



### Electrical Schematic



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

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IF/RF MICROWAVE COMPONENTS

REV. A  
M119986  
ED-12758  
ADC-26-52+  
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081111