

# Surface Mount Directional Coupler

## ADC-6-13+ ADC-6-13

50Ω 200 to 1300 MHz

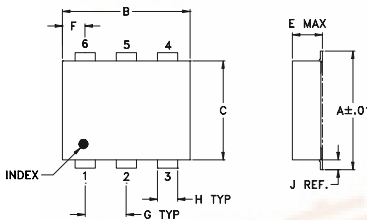
### Maximum Ratings

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

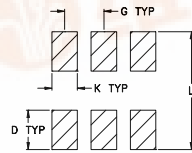
### Pin Connections

INPUT	1
OUTPUT	6
COUPLED	3
GROUND	2
50Ω TERM EXTERNAL	4
GROUND or NO CONNECTION	5

### Outline Drawing



### PCB Land Pattern

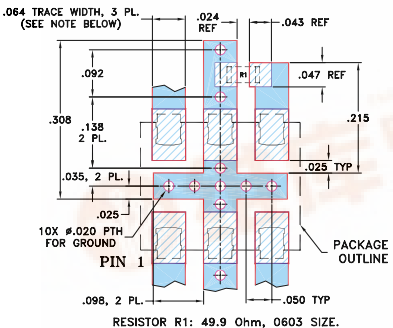


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.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-041)



RESISTOR R1: 49.9 Ohm, 0603 SIZE.

- 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, 200-1300 MHz
- excellent VSWR, 1:3:1 typ.
- excellent coupling flatness, ±0.5 typ.
- aqueous washable
- protected by U.S Patents 6,133,525 & 6,140,887

### Applications

- cellular
- VHF/UHF receivers



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.

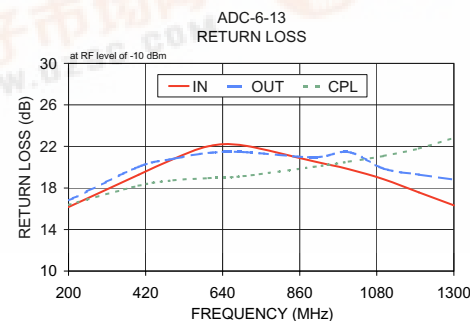
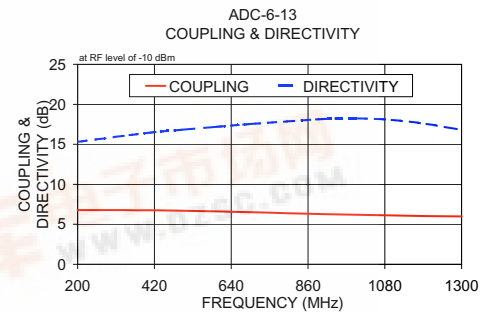
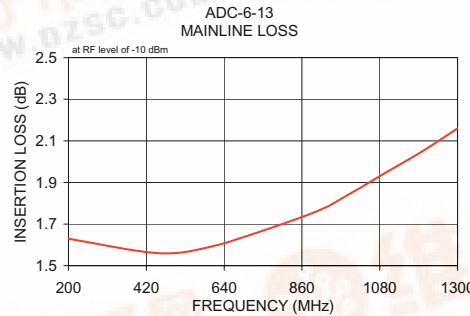
### Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS <sup>1</sup> (dB)		DIRECTIVITY (dB)		VSWR (:1)	POWER INPUT, W	
	Nom.	Flatness	Typ.	Max.	Typ.	Min.		Typ.	L Max.
f <sub>L</sub> -f <sub>U</sub>									
200-1300	6.2±0.5	±0.9	1.8	2.5	17	10	1.3	0.5	0.5

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
200.00	1.63	6.78	15.32	16.16	16.80	16.37
400.00	1.57	6.77	16.43	19.27	20.03	18.22
500.00	1.56	6.70	16.81	20.80	20.81	18.74
600.00	1.59	6.61	17.19	22.02	21.37	18.95
700.00	1.64	6.52	17.56	22.08	21.46	19.14
900.00	1.76	6.29	18.16	20.57	20.96	20.03
1000.00	1.85	6.20	18.24	19.80	21.45	20.54
1100.00	1.95	6.11	18.05	18.83	19.86	21.08
1200.00	2.05	6.04	17.55	17.57	19.28	21.80
1300.00	2.16	5.98	16.79	16.32	18.80	22.81



### electrical schematic

