

Surface Mount Directional Coupler

75Ω 20 to 1000 MHz

ADC-6-10-75+
ADC-6-10-75



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.

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
75Ω TERM EXTERNAL	4
ISOLATE (DO NOT USE)	5

Features

- wideband, 20-1000 MHz
- low insertion loss, 2.1 db typ.
- excellent coupling flatness, ±0.15 typ.
- aqueous washable
- protected by U.S Patents 6,133,525 & 6,140,887

Applications

- cable tv

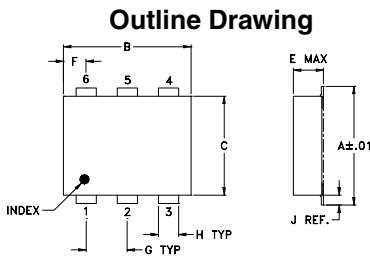
Directional Coupler Electrical Specifications

FREQ. (MHz)	COUPLING (dB)		MAINLINE LOSS ¹ (dB)						DIRECTIVITY (dB)			VSWR (:1)	POWER INPUT, W			
	Nom.	Flatness	L		M		U		L		M		U	Typ.	L	MU
f _L -f _U			Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Max.	Max.
20-1000	6.6±0.5	±0.5	2.1	2.8	2.1	2.5	2.2	2.8	15	12	15	12	15	9	1.33	0.5 0.5

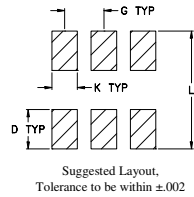
L= 20-200 MHz M= 200-500 MHz U= 500-1000 MHz
1. Mainline loss includes theoretical power loss at coupled port.

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB)		Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
	In-Out				In	Out	Cpl
18.00	2.12		6.65	15.82	15.10	36.74	15.09
50.00	2.14		6.66	15.80	15.28	49.03	15.44
100.00	2.14		6.70	15.73	15.50	38.41	15.43
300.00	2.09		6.72	15.71	17.25	27.75	16.06
500.00	2.11		6.53	15.84	20.57	24.15	19.74
600.00	2.16		6.48	15.88	22.66	23.38	17.89
700.00	2.23		6.51	15.88	24.28	23.33	18.52
800.00	2.27		6.61	15.59	24.45	23.80	22.73
900.00	2.25		6.67	14.91	24.18	24.25	21.44
1000.00	2.26		6.70	13.81	24.01	23.70	19.57



PCB Land Pattern

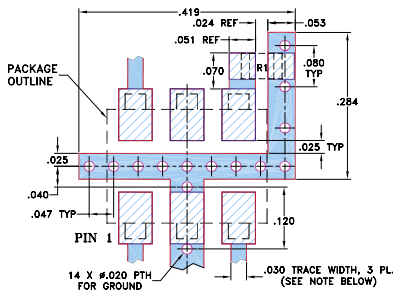


Suggested Layout,
Tolerance to be within ±0.02

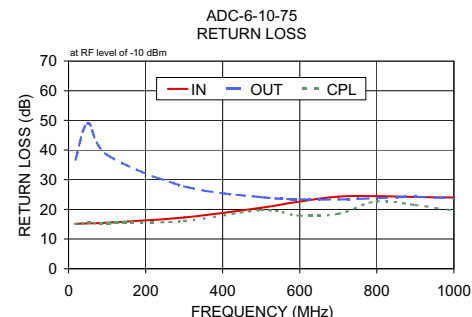
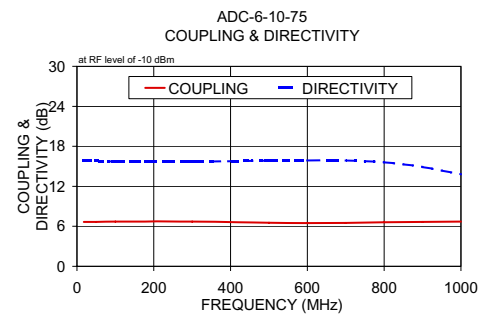
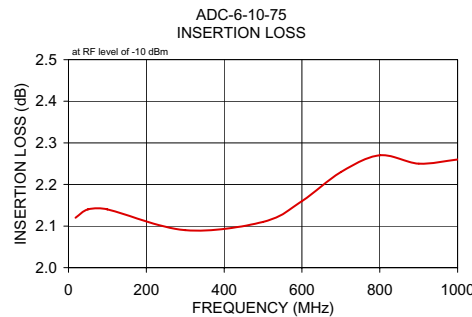
Outline Dimensions (inch/mm)

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		

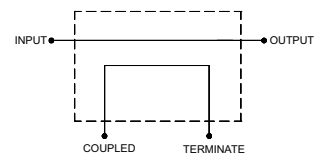
Demo Board MCL P/N: TB-08 Suggested PCB Layout (PL-042)



- RESISTOR R1: 75 Ohm, 0805 SIZE.
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



electrical schematic



Mini-Circuits

INTERNET <http://www.minicircuits.com>
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



REV. C
M102713
ED-7094/1
ADC-6-10-75
WZ/TD/CP
060615