

Surface Mount Directional Coupler

50Ω 200 to 1300 MHz

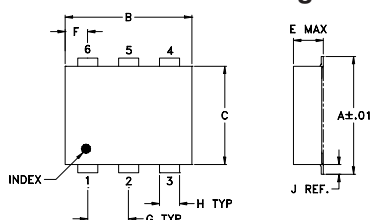
Maximum Ratings

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.	

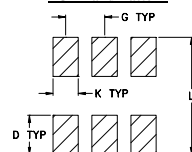
Pin Connections

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

Outline Drawing



PCB Land Pattern

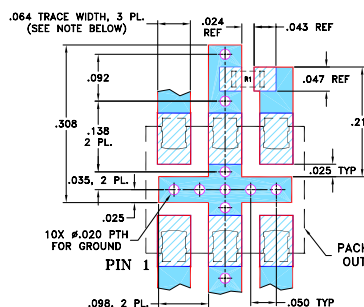


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch)

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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. 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.

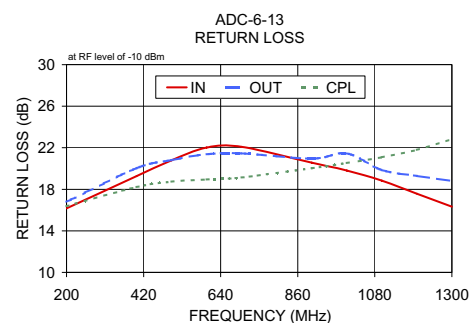
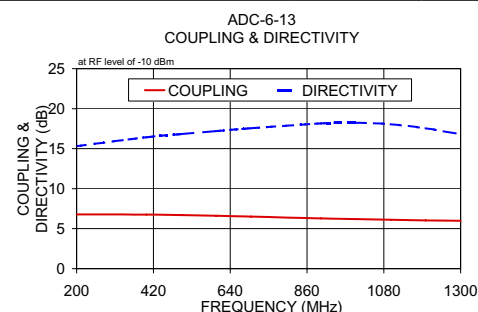
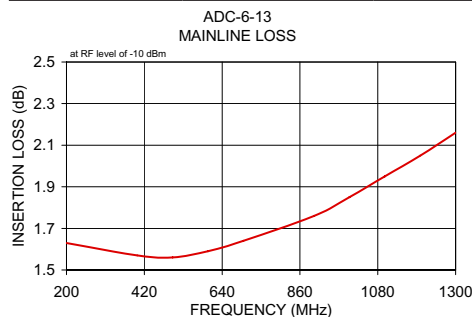
Directional Coupler Electrical Specifications

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

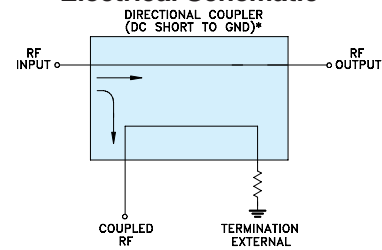
1. Mainline loss includes theoretical power loss at coupled port.

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



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

For detailed performance specs
& shopping online see web site

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

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