

Surface Mount Frequency Mixer

**ADE-1+
ADE-1**

Level 7 (LO Power +7 dBm) 0.5 to 500 MHz

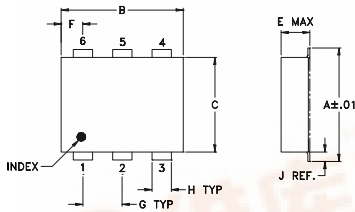
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

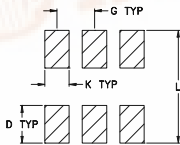
Pin Connections

LO	6
RF	3
IF	2
GROUND	1,4,5

Outline Drawing



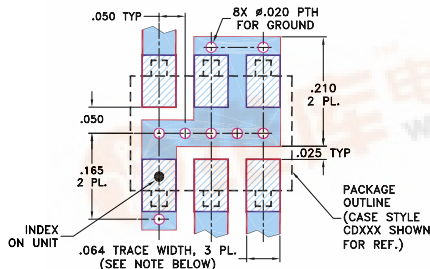
PCB Land Pattern



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	M	N	O
.030	.026	.065	.300			
0.76	0.66	1.65	7.62			

Demo Board MCL P/N: TB-03 Suggested PCB Layout (PL-052)



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

Features

- low conversion loss, 5.0 dB typ.
- excellent L-R isolation, 55 dB typ.
- excellent IP3, 15 dBm typ.
- low profile package
- aqueous washable
- protected by US patent 6,133,525

Applications

- VHF/UHF



CASE STYLE: CD636
PRICE: \$1.99 ea. QTY (100)

+ 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.

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF IF		Mid-Band m		Total Range		L		M		U		L		M		U		
f _L -f _U		$\bar{X}$	σ	Max.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
0.5-500 DC-500		5.0	0.10	6.5	7.8	70	50	55	35	45	30	65	45	40	25	30	20	

1 dB COMP.: +1 dBm typ.

L = low range [f_L to $10 f_L$]

m = mid band [$2f_L$ to $f_U/2$]

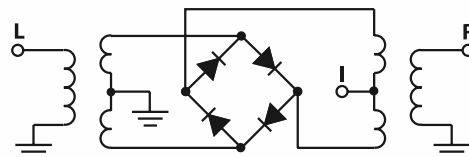
M = mid range [$10 f_L$ to $f_U/2$]

U = upper range [$f_U/2$ to f_U]

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
0.50	30.50	5.68	67.49	56.67	1.46	2.51
0.80	30.80	5.55	67.50	56.83	1.32	2.56
1.00	31.00	5.35	67.51	56.67	1.29	2.56
5.00	35.00	5.06	66.17	55.50	1.19	2.51
10.00	40.00	4.95	65.17	54.17	1.18	2.51
20.00	50.00	5.02	63.50	52.17	1.17	2.56
40.00	70.00	4.89	61.00	48.83	1.14	2.51
63.25	93.25	4.93	58.84	46.33	1.11	2.51
94.82	124.82	4.99	58.00	44.34	1.08	2.56
100.00	130.00	5.08	58.00	43.84	1.08	2.56
126.39	156.39	4.96	56.67	42.17	1.08	2.56
157.97	187.97	5.11	54.16	41.16	1.10	2.51
221.12	251.12	5.15	51.84	40.00	1.05	2.67
250.00	280.00	5.10	53.00	38.67	1.03	2.61
284.26	314.26	5.20	48.33	36.50	1.04	2.67
347.41	377.41	5.43	47.66	33.34	1.10	2.56
378.98	408.98	5.33	47.00	30.67	1.15	2.80
410.56	440.56	5.54	45.50	29.17	1.17	2.80
470.00	500.00	5.81	44.67	28.16	1.14	3.01
500.00	530.00	5.91	43.82	28.50	1.23	3.09

Electrical Schematic



Performance Charts

ADE-1+ ADE-1

