

Surface Mount Frequency Mixer

ADE-2ASK+ ADE-2ASK

Level 7 (LO Power +7 dBm) 1 to 1000 MHz



CASE STYLE: CD542

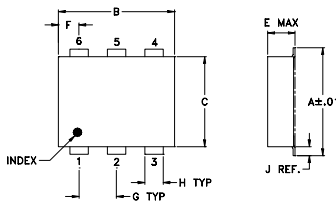
Maximum Ratings

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

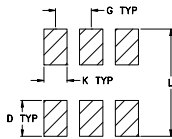
Pin Connections

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

Outline Drawing



PCB Land Pattern

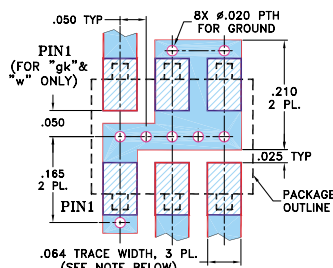


Suggested Layout,
Tolerance to be within ±.002

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-03 Suggested PCB Layout (PL-052)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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

- low conversion loss, 5.4 dB typ.
- excellent L-R isolation, 45 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- VSAT systems
- instrumentation
- cellular

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		L	M	U	L		M	U									
f_L - f_U			\bar{X}	σ	Max.	Total Range Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.						
1-1000	DC-1000		5.4	0.10	6.8	9.5		55	45	45	30	36	20	50	40	32	22	22	12	12

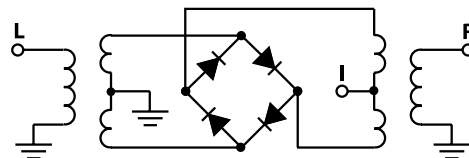
1 dB COMP.: +1 dBm typ.
Phase detection, positive polarity

L = low range [f_L to $10 f_L$]
M = mid band [$2 f_L$ 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
1.00	31.00	6.13	67.70	64.10	2.58	1.38
2.00	32.00	5.68	67.90	64.20	2.55	1.22
2.18	32.18	5.68	67.90	64.00	2.52	1.21
4.73	34.73	5.45	66.90	64.10	2.55	1.12
10.29	40.29	5.40	66.00	63.10	2.52	1.09
22.37	52.37	5.49	63.30	61.10	2.52	1.07
48.66	78.66	5.44	59.70	57.50	2.52	1.04
105.82	135.82	5.42	54.50	52.40	2.52	1.00
230.13	260.13	5.49	48.90	47.20	2.61	1.05
500.50	530.50	5.96	46.80	38.20	2.88	1.25
556.00	586.00	6.18	47.40	36.40	2.92	1.20
600.00	630.00	6.29	45.90	35.20	2.96	1.21
611.50	641.50	6.31	45.10	35.00	2.88	1.21
667.00	697.00	6.43	42.60	31.90	3.21	1.26
722.50	752.50	6.81	41.00	30.90	3.01	1.38
778.00	808.00	6.93	38.60	29.20	3.21	1.58
833.50	863.50	7.22	36.80	28.10	3.38	1.78
889.00	919.00	7.46	35.20	28.60	3.16	1.99
944.50	974.50	7.58	33.10	26.60	3.64	2.25
1000.00	1030.00	7.83	30.70	24.00	3.64	2.49

Electrical Schematic



Performance Charts

