

Surface Mount Frequency Mixer

Level 7 (LO Power +7 dBm) 5 to 1000 MHz

RMS-2D+
RMS-2D



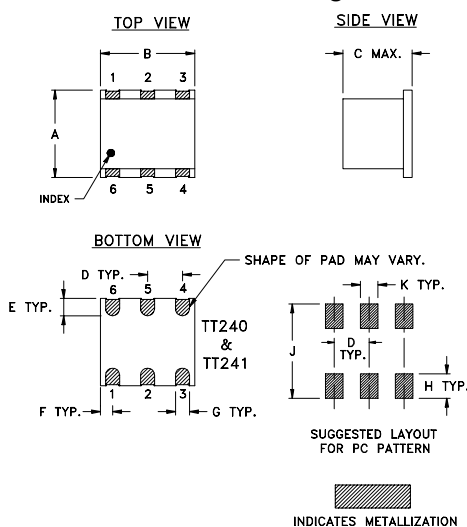
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

Pin Connections

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

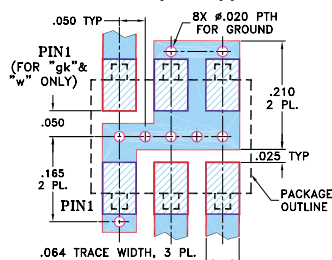
Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F
.250	.31	.20	.100	.050	.055
6.35	7.87	5.08	2.54	1.27	1.40
G	H	J	K	wt	
.040	.070	.270	.050	grams	
1.02	1.78	6.86	1.27	0.50	

Demo Board MCL P/N: TB-03
Suggested PCB Layout (PL-052)
"w" loc. of pin 1 applies.



- 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

- excellent L-R isolation, 40 dB typ.
- conversion loss, 6.81 dB typ.
- small size, 0.25"x0.31"x0.2"

Applications

- ISM/GSM
- cellular

CASE STYLE: TT240
PRICE: \$7.25 ea. QTY (1-9)

+ 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				
$f_L - f_U$	$\bar{X}$ σ Max. Total Range Max.	L M U	L M U	
Typ. Min. Typ. Min. Typ. Min.	Typ. Min. Typ. Min. Typ. Min.	Typ. Min. Typ. Min. Typ. Min.		
5-1000 DC-1000	6.81 .06 8.0 10.0	59 40 40 30 33 22	55 30 40 22 30 20	17

1 dB COMP: +1 dBm typ.

For phase detection, DC output positive with in-phase RF & LO.

L = low range [f_L to 10 f_L]

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

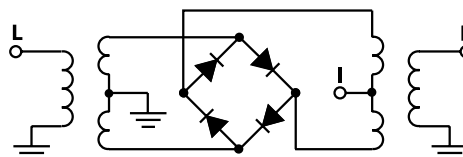
M = mid range [$10 f_L$ to $f_U/2$]

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
5.00	35.00	7.12	75.17	69.37	1.43	2.92
10.00	40.00	7.00	69.29	68.39	1.32	2.76
20.00	50.00	7.00	62.94	64.44	1.28	2.74
50.00	80.00	7.04	55.85	57.67	1.28	2.69
95.45	65.45	7.03	50.26	52.12	1.29	2.57
100.00	70.00	7.00	49.77	51.68	1.31	2.52
185.91	155.91	6.96	44.92	47.38	1.33	2.53
200.00	170.00	6.95	44.30	46.93	1.38	2.57
276.36	246.36	6.93	41.76	44.24	1.46	2.60
366.82	336.82	6.92	39.46	41.10	1.50	2.60
457.27	427.27	6.84	38.05	38.81	1.53	2.61
487.42	457.42	6.90	37.64	37.61	1.57	2.60
500.00	470.00	6.87	37.67	37.54	1.67	2.69
547.73	517.73	6.89	37.15	36.85	1.78	2.67
638.18	608.18	6.96	35.79	35.08	1.87	2.67
728.64	698.64	7.11	34.44	33.63	1.91	2.65
819.09	789.09	7.48	33.73	32.36	2.03	2.77
909.55	879.55	7.84	34.09	30.24	2.16	2.86
969.85	939.85	8.11	33.57	28.96	2.26	2.89
1000.00	970.00	8.28	34.04	28.80	2.30	2.88

Electrical Schematic



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Performance Charts

