

Surface Mount Frequency Mixer

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

LRMS-2+



CASE STYLE: QQQ130

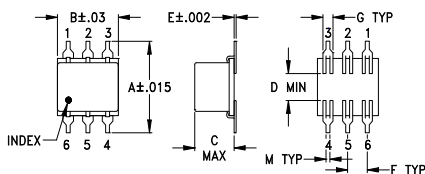
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

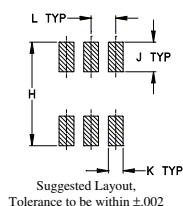
Pin Connections

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

Outline Drawing



PCB Land Pattern

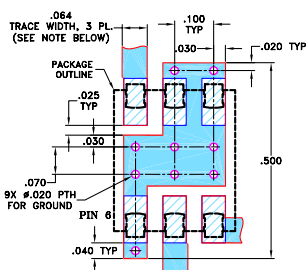


Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.400	.31	.200	.10	.010	.100	.050
10.16	7.87	5.08	2.54	0.25	2.54	1.27

H	J	K	L	M	wt
.420	.120	.060	.100	.020	grams
10.67	3.05	1.52	2.54	0.51	0.55

Demo Board MCL P/N: TB-44+ Suggested PCB Layout (PL-083)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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

Notes

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Features

- low conversion loss, 6.67 dB typ.
- excellent L-R isolation, 40 dB typ.

Applications

- VHF/UHF
- instrumentation
- cellular

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF f _L -f _U	IF	Mid-Band m			Total Range Max.	L	M		U		L	M		U				
		X	σ	Max.			Typ.	Min.	Typ.	Min.		Typ.	Min.	Typ.	Min.			
5-1000	DC-1000	6.67	.26	8.0	9.5	60	40	40	20	25	18	55	30	30	20	20	12	16

1 dB COMP.: +1 dBm typ.

L = low range [f_L to 10 f_L]
m= mid band [2f_L to f_U/2]

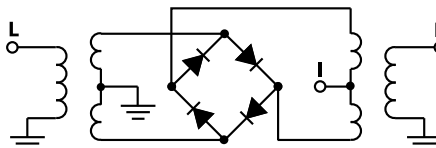
M = mid range [10 f_L to f_U/2]

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
5.00	35.00	7.10	54.80	61.28	1.65	2.68
10.00	40.00	6.75	53.66	60.10	1.39	2.70
34.00	64.00	6.65	49.48	56.02	1.28	2.69
42.00	72.00	6.71	48.42	54.85	1.29	2.68
50.00	80.00	6.65	47.48	53.84	1.30	2.65
75.00	105.00	6.64	45.18	51.63	1.31	2.61
100.00	130.00	6.75	43.57	50.79	1.31	2.68
200.00	230.00	6.76	38.78	47.49	1.32	2.76
250.00	280.00	6.77	37.05	44.64	1.34	2.60
300.00	330.00	6.83	35.93	42.49	1.32	2.72
400.00	430.00	6.97	34.39	38.85	1.30	2.70
450.00	480.00	6.93	33.35	36.67	1.30	2.67
500.00	530.00	7.05	32.80	35.07	1.29	2.83
550.00	580.00	7.12	31.89	32.96	1.29	2.91
600.00	630.00	7.08	31.55	31.69	1.29	2.60
700.00	730.00	7.06	30.41	29.33	1.26	2.90
750.00	780.00	7.16	29.49	27.72	1.31	2.89
800.00	830.00	7.08	28.87	26.26	1.38	3.38
900.00	930.00	6.95	27.66	22.68	1.65	3.59
1000.00	1030.00	7.11	27.40	21.43	1.80	3.96

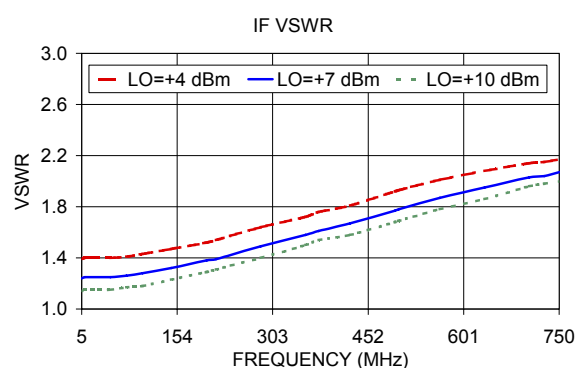
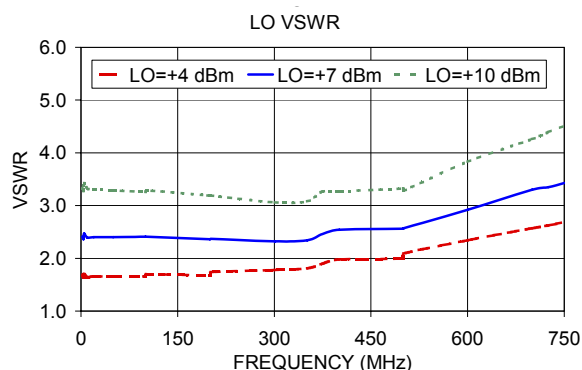
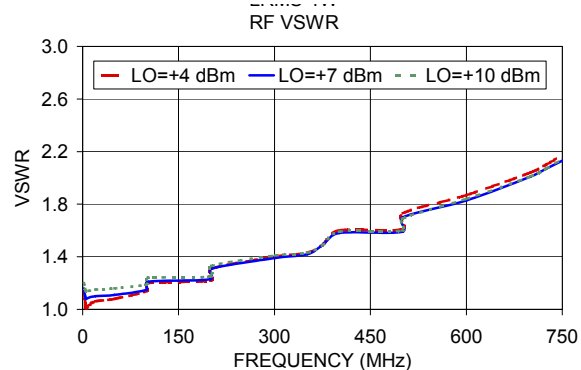
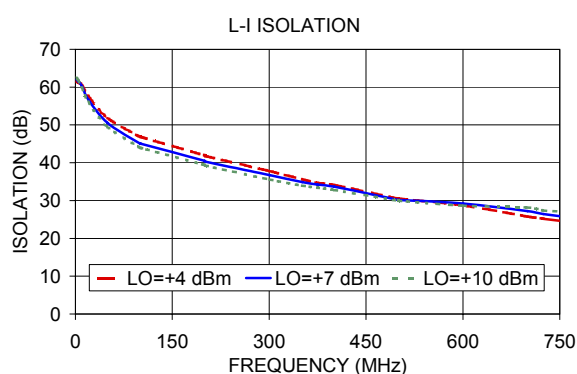
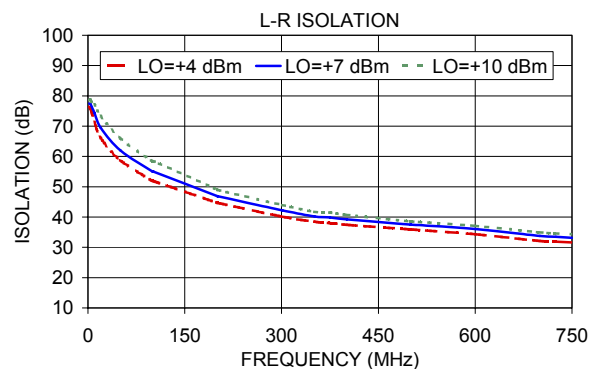
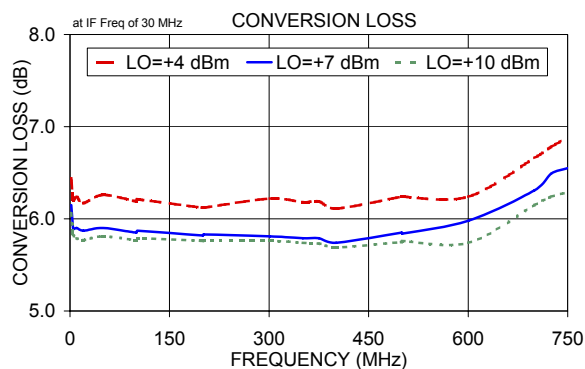
Electrical Schematic



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