

Surface Mount Frequency Mixer

RMS-5L+

Level 3 (LO Power +3 dBm) 400 to 1400 MHz



CASE STYLE: TT240

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

Features

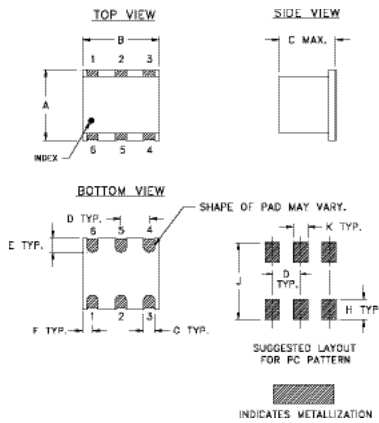
- good conversion loss, 7.0 dB typ.
- small size, 0.25"x0.31"x0.2"
- wide bandwidth, 400-1400 MHz

Applications

- cellular
- ISM/GSM
- satellite distribution

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

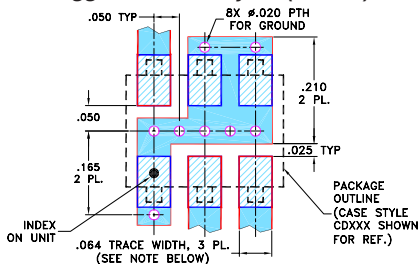
Outline Drawing



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)



- 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.
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Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document 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

Electrical Specifications

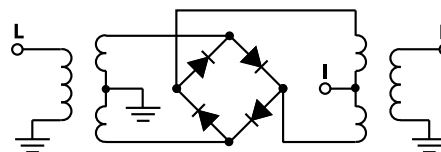
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)	LO-IF ISOLATION (dB)	IP3 at center band (dBm)
$f_L - f_U$	\bar{X} σ Max.	Typ. Min.	Typ. Min.	Typ.
400-1400 DC-800	7.0 0.2 9.8	22 14	22 6	9

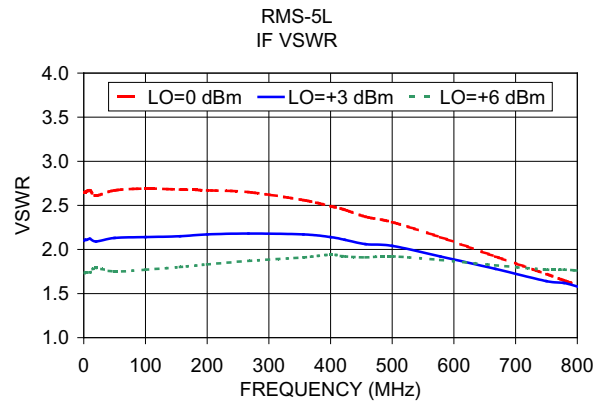
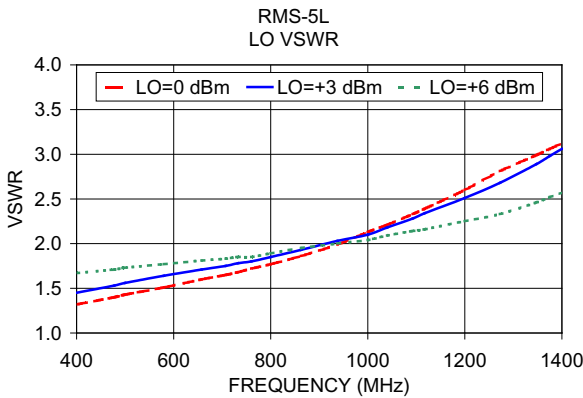
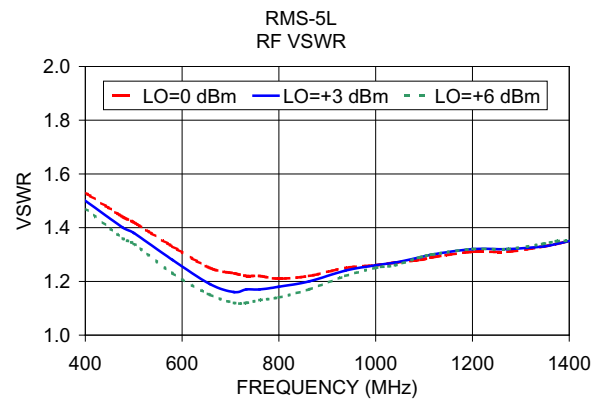
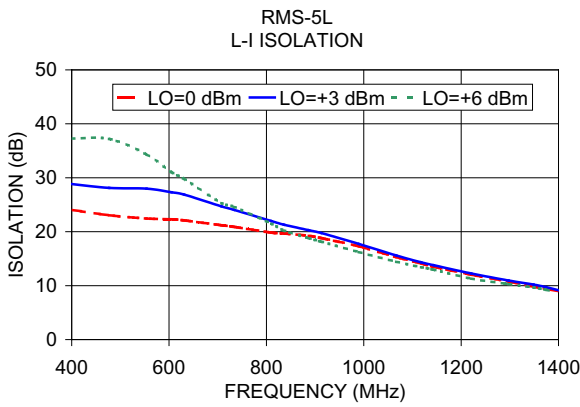
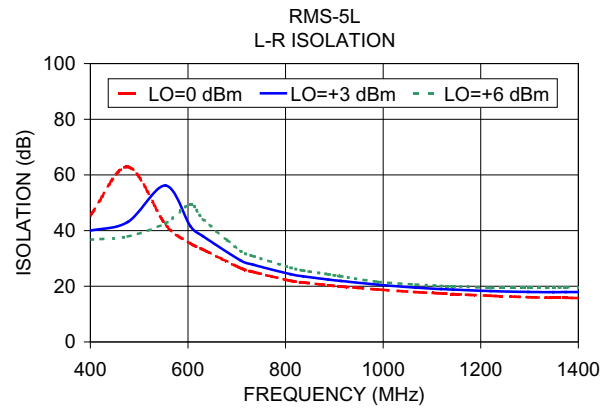
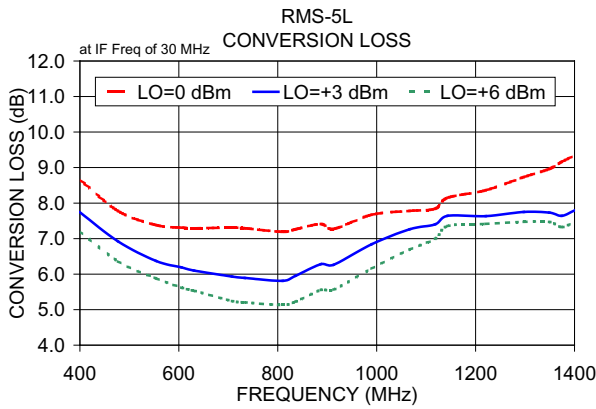
1 dB COMP.: -3 dBm typ.
 For phase detection, DC output positive with in-phase RF & LO.
 L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]
 m = mid band [$2f_L$ to $f_U/2$]

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 +3dBm	LO +3dBm	LO +3dBm	LO +3dBm	LO +3dBm
400.00	430.00	7.74	39.94	28.82	1.50	1.45
476.92	506.92	6.92	43.12	28.11	1.40	1.53
553.85	583.85	6.37	56.16	27.98	1.38	1.56
605.13	635.13	6.19	41.52	27.30	1.28	1.64
630.77	660.77	6.10	37.96	26.89	1.19	1.71
707.69	737.69	5.93	29.29	24.68	1.16	1.75
733.33	763.33	5.89	27.74	24.04	1.17	1.78
810.26	840.26	5.81	24.32	21.96	1.17	1.80
835.90	865.90	5.95	23.55	21.29	1.18	1.85
887.18	917.18	6.28	22.39	20.26	1.20	1.93
912.82	942.82	6.26	21.89	19.74	1.24	2.03
989.74	959.74	6.84	20.56	17.73	1.26	2.10
1066.67	1036.67	7.26	19.47	15.58	1.27	2.18
1117.95	1087.95	7.40	18.97	14.31	1.29	2.28
1143.59	1113.59	7.64	18.77	13.78	1.30	2.34
1220.51	1190.51	7.63	18.25	12.26	1.32	2.51
1297.44	1267.44	7.75	17.96	10.95	1.32	2.68
1348.72	1318.72	7.73	17.87	10.20	1.33	2.89
1374.36	1344.36	7.64	17.90	9.72	1.34	2.98
1400.00	1370.00	7.79	17.92	9.13	1.35	3.06

Electrical Schematic





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