Surface Mount

Frequency Mixer

RMS-30+

Level 7 (LO Power +7 dBm) 200 to 3000 MHz

CASE STYLE: TT240
PRICE: $8.95 ea. QTY (1-9)

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

Maximum Ratings

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

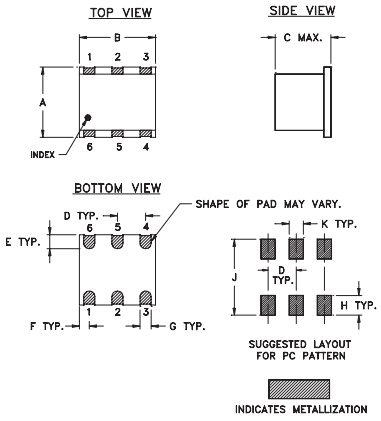
Features

- wideband, 200-3000 MHz
- conversion loss, 7.0 dB typ.
- small size, 0.25”x0.31”x0.2”

Applications

- MMDS
- ISM/PCS/UMTS
- GPS

Outline Drawing

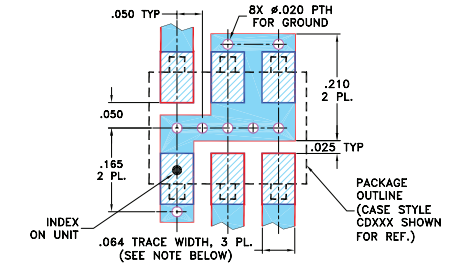


Outline Dimensions (inch / mm)

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 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

Electrical Specifications

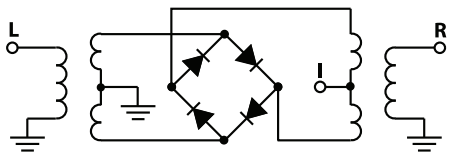
FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	Mid-Band m			Total Range					
f_L-f_U		$\overline{X}$	σ	Max.	Max.	Typ.	Min.	Typ.	Min.	Typ.
200-3000	DC-1000	6.5	.20	9.0	9.8	27	17	20	7	11

1 dB COMP.: +1 dBm typ.
m=mid band [$2f_L$ to $f_U/2$]
For phase detection, DC output positive with in-phase RF & LO.

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 +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm
200.10	230.10	5.30	35.34	22.95	1.59	6.06
400.10	430.10	4.94	45.55	22.74	1.63	3.34
600.09	630.09	4.68	38.09	24.23	1.75	2.59
828.65	858.65	6.27	32.57	30.75	1.81	2.05
1000.07	1030.07	6.43	30.53	30.13	2.20	1.49
1114.35	1144.35	6.16	30.64	23.50	2.56	1.38
1228.63	1258.63	5.88	29.50	21.69	3.00	1.34
1342.92	1372.92	6.03	30.63	23.23	3.60	1.47
1457.20	1487.20	6.87	30.80	25.21	4.40	1.62
1500.00	1530.00	6.95	31.01	25.49	4.81	1.75
1685.76	1655.76	7.08	30.14	20.62	5.49	2.12
1857.18	1827.18	7.22	28.52	16.49	3.82	2.51
1971.47	1941.47	7.26	27.20	14.81	3.19	2.75
2085.75	2055.75	7.12	26.56	13.64	2.97	2.86
2200.03	2170.03	6.95	26.14	12.33	2.76	2.94
2371.45	2341.45	6.77	24.57	11.40	2.44	2.95
2542.87	2512.87	6.62	25.24	13.33	1.85	2.94
2714.30	2684.30	5.98	26.06	14.42	1.35	2.45
2885.72	2855.72	6.24	26.86	14.79	1.60	1.83
3000.00	2970.00	6.95	28.42	16.91	2.52	1.60

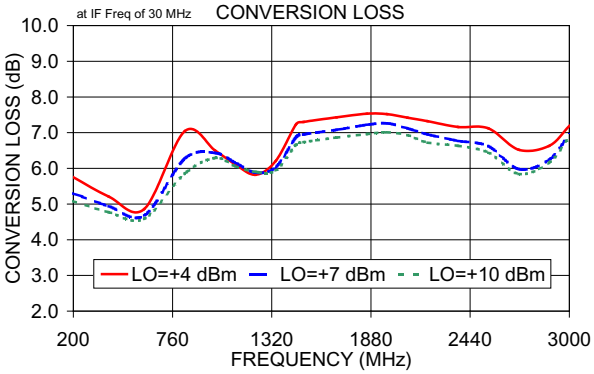
Electrical Schematic



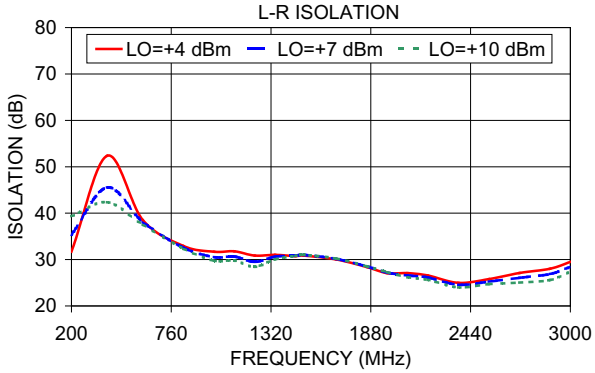
Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

at IF Freq of 30 MHz

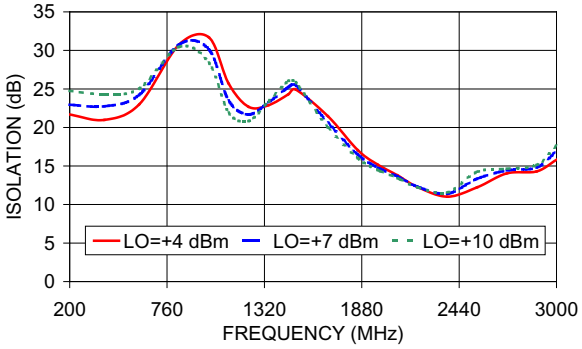
CONVERSION LOSS



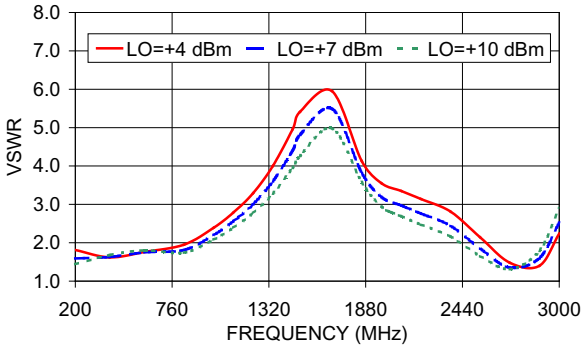
L-R ISOLATION



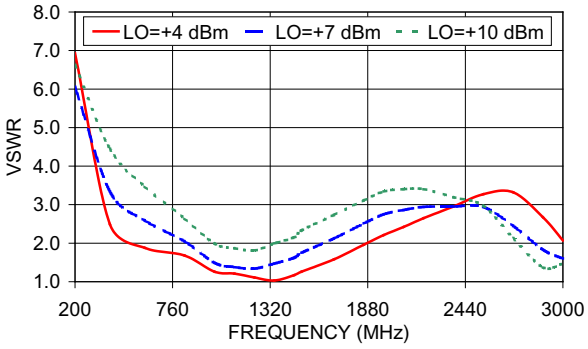
L-I ISOLATION



RF VSWR



LO VSWR



IF VSWR