

Surface Mount Frequency Mixer

ADE-3G

Level 7 (LO Power +7 dBm) 2300 to 2700 MHz



Generic photo used for illustration purposes only

CASE STYLE: CD542

Maximum Ratings

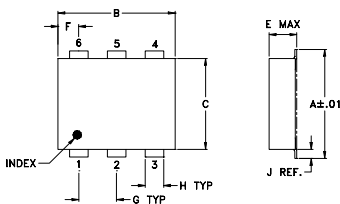
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Permanent damage may occur if any of these limits are exceeded.

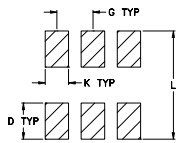
Pin Connections

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

Outline Drawing



PCB Land Pattern



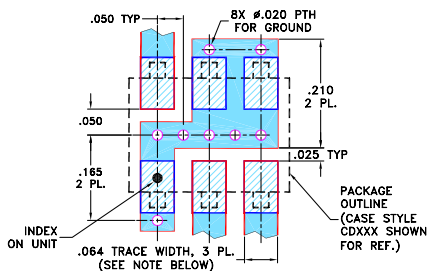
Suggested Layout,
Tolerance to be within ±.002

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:**
- 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.
 - 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

- 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.
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Features

- low conversion loss, 5.6 dB typ.
- good L-R isolation, 36 dB typ.
- low profile package
- aqueous washable
- low cost
- protected by U.S. Patent 6,133,525

Applications

- wireless/VSAT systems
- ISM

Electrical Specifications

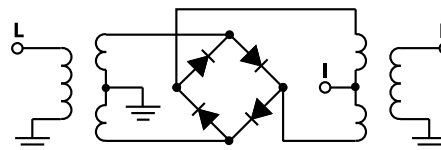
FREQUENCY (MHz)	CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)	
	LO/RF f_L-f_U	\bar{X}	σ	Max.	Typ.	Min.	Typ.		Min.
2300-2700	DC-400	5.8	0.10	7.0	35	25	26	17	13

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

Typical Performance Data

Frequency		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF MHz	LO MHz	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
2300.00	2330.00	5.75	41.50	25.30	1.28	1.76
2321.05	2351.05	5.85	41.30	25.70	1.27	1.80
2342.11	2372.11	5.88	41.00	26.00	1.23	1.85
2363.16	2393.16	5.89	41.00	26.20	1.24	1.87
2384.21	2414.21	5.91	40.80	26.40	1.25	1.85
2405.26	2435.26	5.82	40.60	26.80	1.24	1.84
2426.32	2456.32	5.79	40.40	27.10	1.25	1.80
2447.37	2477.37	5.69	40.00	27.30	1.25	1.80
2468.42	2498.42	5.65	39.20	27.70	1.27	1.82
2489.47	2519.47	5.59	38.50	27.80	1.28	1.84
2510.53	2540.53	5.65	38.10	28.00	1.29	1.85
2531.58	2561.58	5.63	37.80	28.20	1.31	1.82
2552.63	2582.63	5.64	38.10	28.20	1.34	1.78
2573.68	2603.68	5.54	38.00	28.10	1.38	1.77
2594.74	2624.74	5.61	37.10	28.20	1.39	1.73
2615.79	2645.79	5.63	36.20	28.20	1.40	1.70
2636.84	2666.84	5.63	35.80	28.20	1.43	1.67
2657.90	2687.90	5.59	35.30	28.00	1.48	1.63
2678.95	2708.95	5.54	35.00	27.90	1.50	1.59
2700.00	2730.00	5.53	34.70	27.70	1.53	1.54

Electrical Schematic

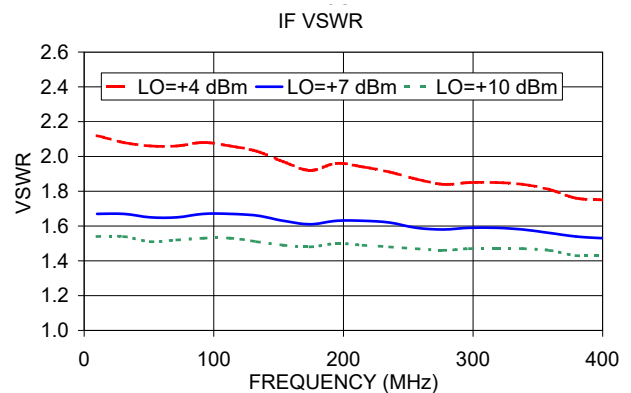
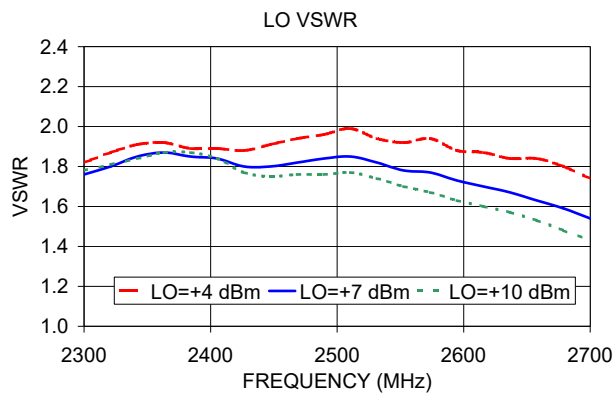
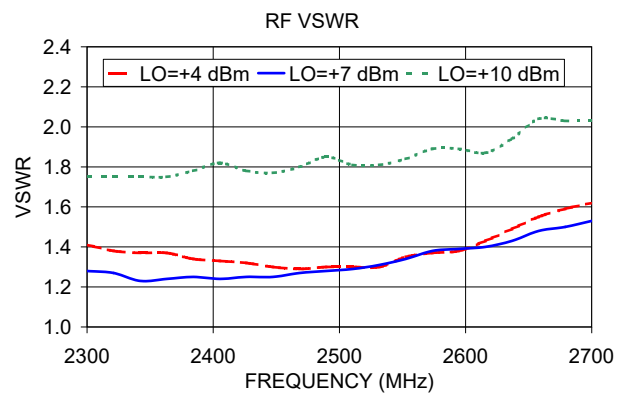
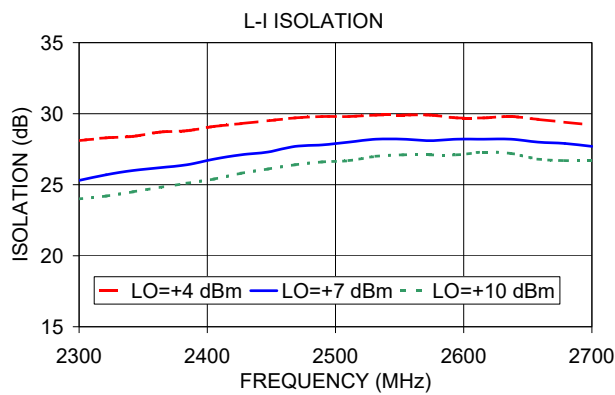
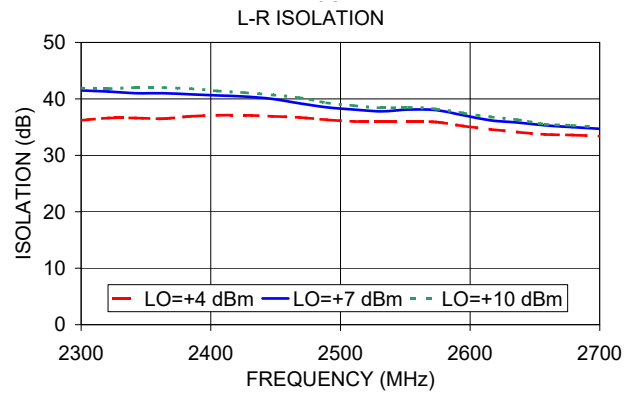
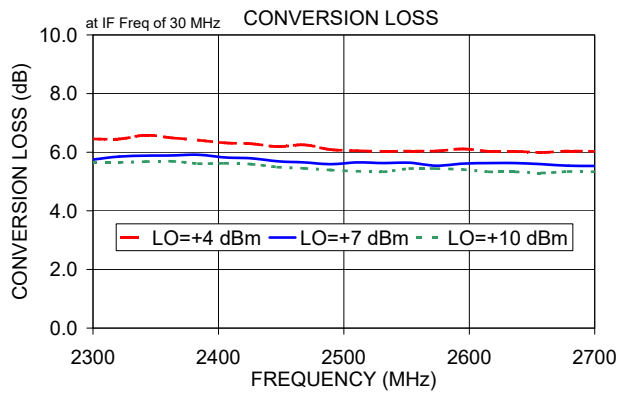


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Performance Charts



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