

Surface Mount Frequency Mixer

ADE-12+

Level 7 (LO Power +7 dBm) 50 to 1000 MHz

Maximum Ratings

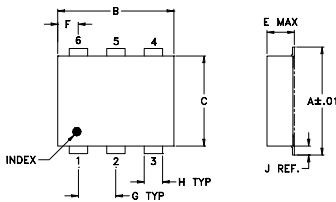
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

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

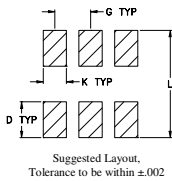
Pin Connections

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

Outline Drawing



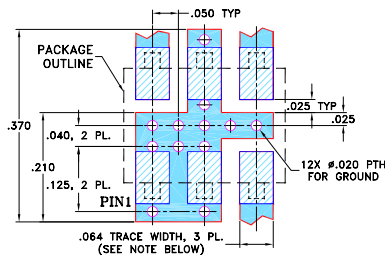
PCB Land Pattern



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.082	.055	.100
6.91	7.87	5.59	2.54	2.08	1.40	2.54
H	J	K	L	wt		
.030	.026	.065	.300	grams		
0.76	0.66	1.65	7.62	0.15		

Demo Board MCL P/N: TB-02 Suggested PCB Layout (PL-051)



Features

- low conversion loss, 7.0 dB typ.
- excellent IP3, 17 dBm typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- cellular
- VHF/UHF



Generic photo used for illustration purposes only
CASE STYLE: CD541

+RoHS Compliant

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



Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200
13"	500, 1000

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		Total	L		U		L		U			
f_L - f_U	DC-1000	\bar{X}	σ	Max.	Range	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
50-1000	DC-1000	7.0	0.15	8.0	9.0	40	25	33	22	44	26	37	20	17

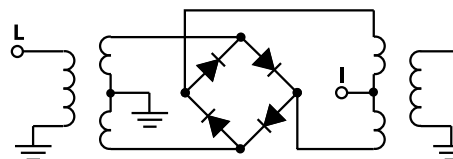
1 dB COMP.: +1 dBm typ.

L = low range [f_L to 10 f_L] 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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
50.00	80.00	7.27	51.50	46.30	2.68	1.39
70.00	100.00	7.27	49.70	44.50	2.65	1.41
80.00	110.00	7.18	48.90	43.90	2.68	1.42
100.00	130.00	7.18	47.70	42.50	2.68	1.41
117.86	147.86	7.19	46.30	41.80	2.76	1.43
185.71	215.71	7.23	43.40	39.00	2.68	1.41
253.57	283.57	7.08	41.00	37.40	2.55	1.42
321.43	351.43	7.04	39.30	35.50	2.61	1.40
389.29	419.29	6.94	37.90	35.20	2.68	1.39
457.14	487.14	6.85	37.00	34.20	2.61	1.35
500.00	530.00	6.90	36.70	33.60	2.61	1.30
525.00	555.00	6.93	36.50	33.20	2.55	1.27
592.86	622.86	6.96	35.60	33.90	2.65	1.27
660.71	690.71	6.84	35.80	34.80	2.80	1.25
728.57	758.57	6.85	35.30	34.80	2.84	1.21
796.43	826.43	6.87	34.70	37.00	2.80	1.21
800.00	830.00	6.92	34.70	37.00	2.84	1.22
864.29	894.29	6.87	34.70	36.10	3.06	1.17
932.14	962.14	6.85	34.70	28.40	3.26	1.23
1000.00	1030.00	6.91	35.60	25.60	3.44	1.26

Electrical Schematic



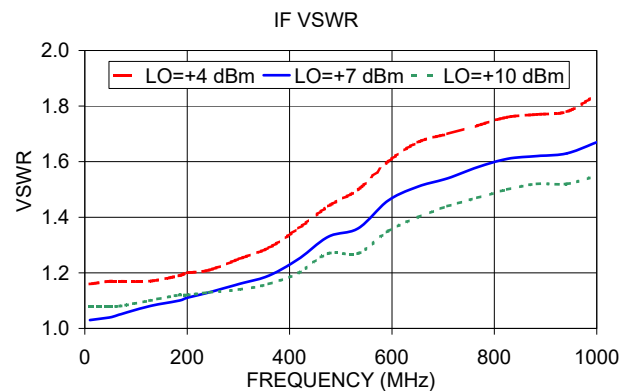
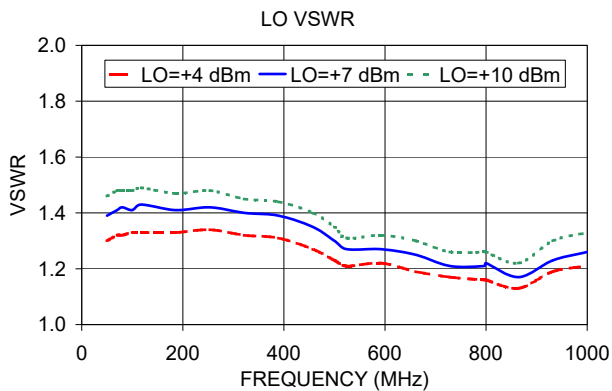
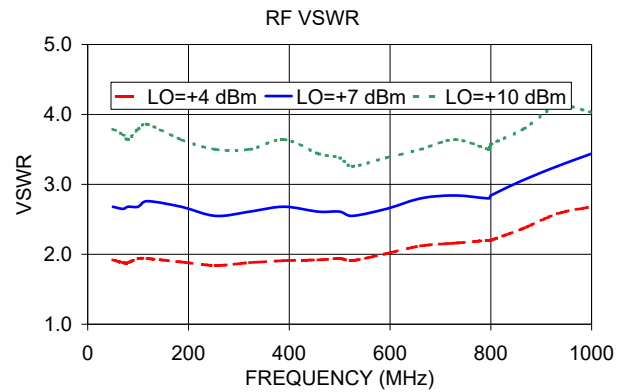
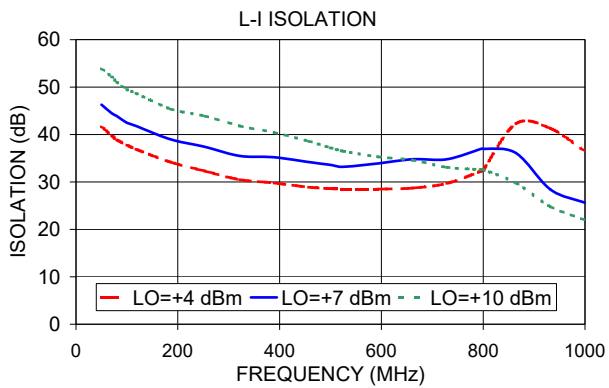
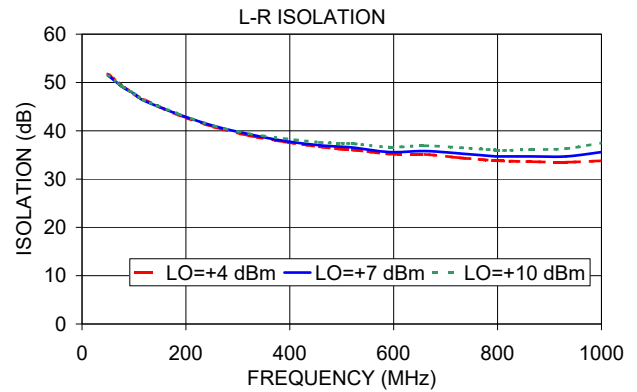
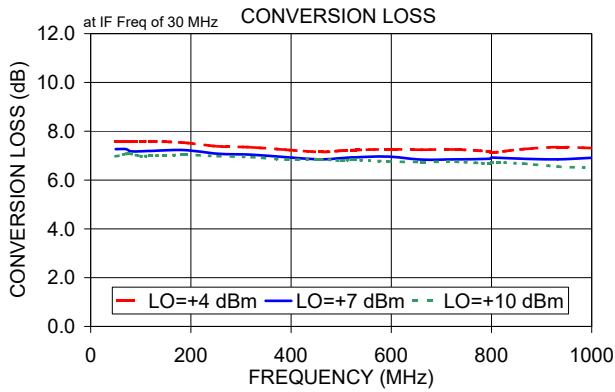
Notes

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