

Frequency Mixer

Level 13 (LO Power +13 dBm) 5 to 4200 MHz

ADE-42MH+



Generic photo used for illustration purposes only

CASE STYLE: CD542

+RoHS Compliant

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

Maximum Ratings

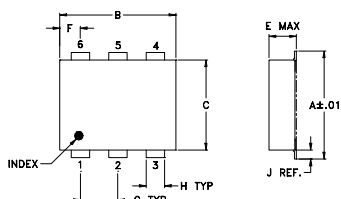
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

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

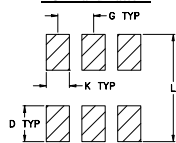
Pin Connections

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

Outline Drawing



PCB Land Pattern



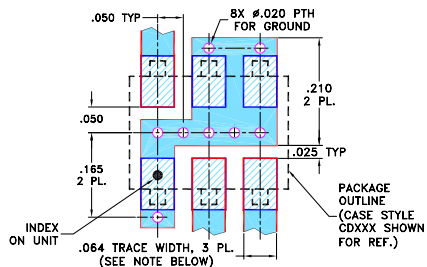
Suggested Layout, Tolerance to be within ±.002

Outline Dimensions (inch)

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: 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

Features

- low conversion loss, 7.5 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- cellular
- PCS
- instrumentation
- satellite communication

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 Max.	L		M		U		L		M		U		
		$\overline{X}$	σ	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
f_L - f_U																		
5-4200	5-3500	7.5	0.20	9.8	11.8	47	28	29	20	30	15	34	23	26	17	23	17	17

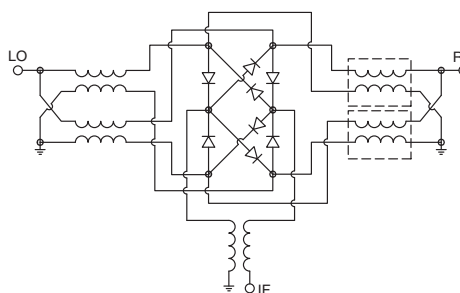
1 dB COMP.: +9 dBm typ.

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 (dB)	Isolation L-R (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
5.00	35.00	7.36	49.90	34.20	1.35	2.37
25.00	55.00	6.76	51.40	34.10	1.20	2.32
75.00	105.00	6.54	54.00	33.90	1.20	2.25
100.00	130.00	6.52	52.70	34.00	1.19	2.30
250.00	280.00	7.05	42.40	33.80	1.10	2.18
500.00	530.00	7.02	35.40	31.50	1.10	2.16
884.28	914.28	7.09	32.20	27.50	1.55	1.91
1000.00	1030.00	7.22	32.20	26.30	1.64	1.91
1326.38	1356.38	7.87	33.40	24.70	2.37	1.84
1547.43	1577.43	7.39	35.80	24.00	2.40	1.81
1768.47	1798.47	7.30	38.90	23.00	2.16	1.78
2000.00	2030.00	7.30	40.00	23.30	2.04	1.63
2431.62	2461.62	7.45	39.50	24.20	2.18	1.30
3000.00	2970.00	7.66	31.10	24.50	2.20	1.56
3315.81	3285.81	7.39	28.10	25.10	1.92	1.87
3536.85	3506.85	7.97	27.10	25.60	1.71	2.06
3757.90	3727.00	8.23	26.30	25.80	1.63	2.06
4000.00	3970.00	8.23	25.00	26.20	1.46	2.20
4100.00	4070.00	8.18	24.30	26.30	1.46	2.20
4200.00	4170.00	8.41	24.20	26.70	1.27	2.20

Electrical Schematic



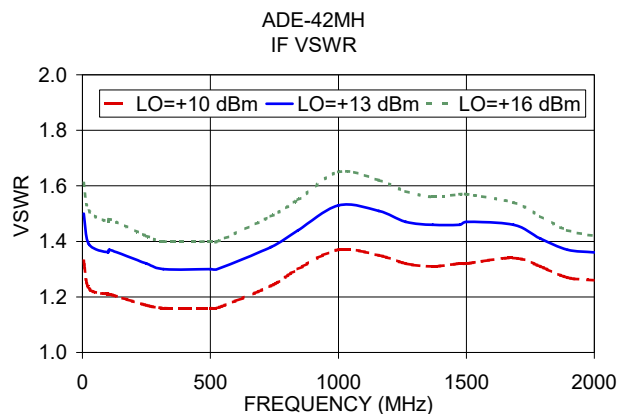
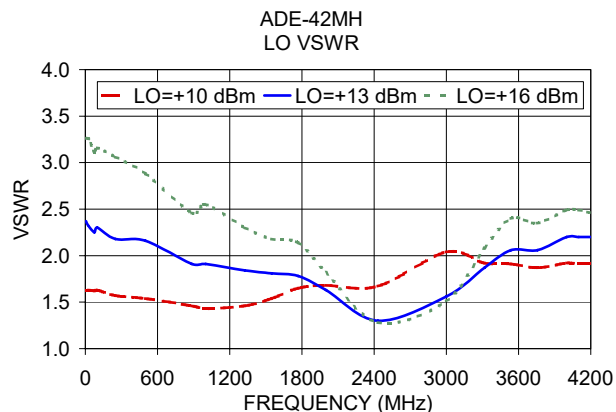
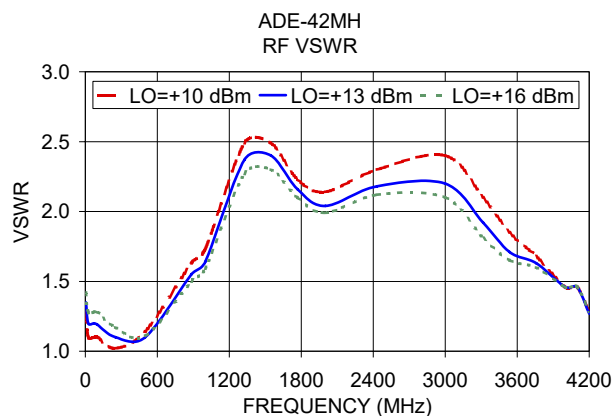
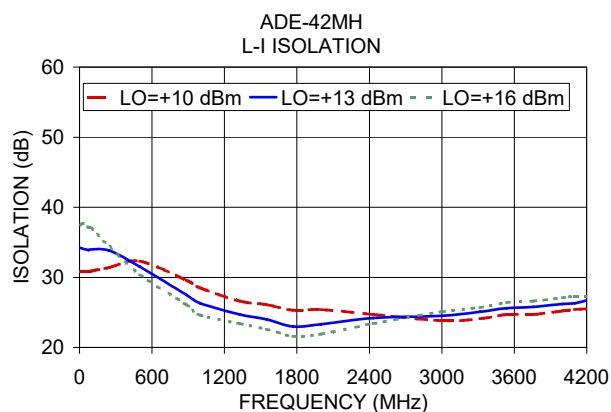
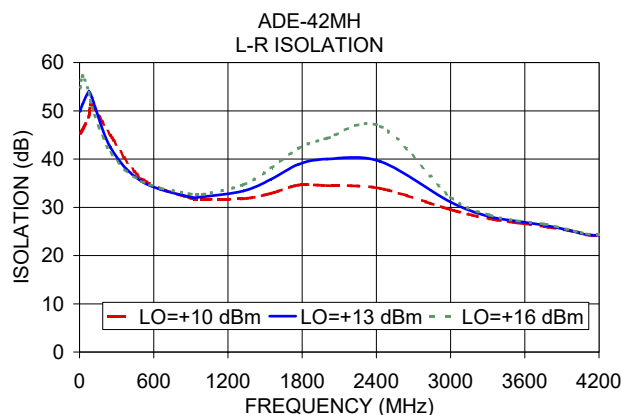
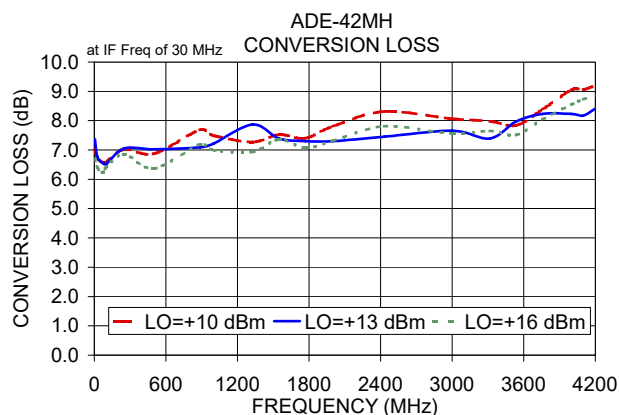
Notes

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