

Frequency Mixer

Level 13 (LO Power +13 dBm) 0.5 to 600 MHz

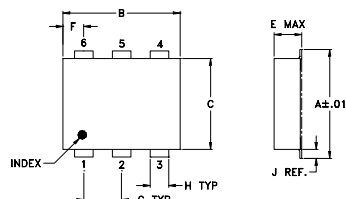
Maximum Ratings

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.	

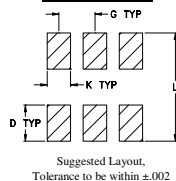
Pin Connections

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

Outline Drawing



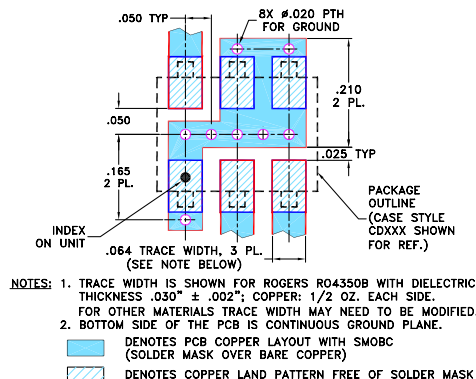
PCB Land Pattern



Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J	K	L	wt
.272	.310	.220	.100	.112	.055	.100	.030	.026	.065	.300	grams
6.91	7.87	5.59	2.54	2.84	1.40	2.54	0.76	0.66	1.65	7.62	0.20

Demo Board MCL P/N: TB-03 Suggested PCB Layout (PL-052)



Features

- low conversion loss, 5.2 dB typ.
- excellent L-R isolation, 53 dB typ.
- excellent IP3, 17 dBm typ.
- aqueous washable
- protected by US patent 6,133,525

Applications

- HF/VHF/UHF receivers

ADE-1MHW+



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



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 m			Total Range Max.	L		M		U		L		M		U		
		$\bar{X}$	σ	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
		f_L - f_U																
0.5-600	DC-600	5.2	0.10	6.9	8.0	63	50	53	32	43	20	56	40	44	25	30	20	17

1 dB COMP.: +9 dBm typ.

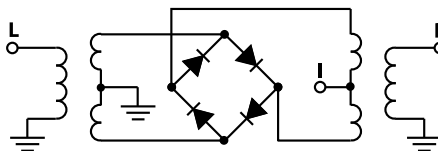
L = low range [f_L to $10 f_L$]
m = mid band [$2 f_L$ to $f_U/2$]

M = mid range [$10 f_L$ to $f_U/2$]
U = upper range [$f_U/2$ to f_U]

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 +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
0.50	30.50	5.48	63.60	56.70	1.55	2.76
1.00	31.00	5.16	63.60	56.40	1.33	2.72
2.00	32.00	4.81	63.60	56.40	1.22	2.76
5.00	35.00	4.57	62.50	55.30	1.18	2.72
10.00	40.00	4.52	61.10	54.10	1.17	2.72
20.00	50.00	4.56	59.90	51.80	1.16	2.76
50.00	80.00	4.58	56.70	46.60	1.12	2.72
62.59	92.59	4.68	55.50	45.30	1.13	2.72
100.00	130.00	4.77	54.50	42.70	1.10	2.84
125.09	155.09	4.83	55.00	41.60	1.09	2.88
150.00	180.00	4.89	53.60	40.60	1.09	2.80
187.58	217.58	4.96	47.90	40.10	1.09	2.76
200.00	230.00	5.02	48.60	40.30	1.09	2.84
250.00	280.00	5.01	49.80	38.40	1.07	2.72
300.00	330.00	5.15	42.70	37.90	1.08	2.80
312.57	342.57	5.11	41.80	37.50	1.06	2.76
375.06	405.06	5.11	41.40	32.60	1.05	2.84
400.00	430.00	5.13	41.90	30.60	1.01	3.06
500.00	530.00	6.20	42.00	31.50	1.38	3.57
625.04	655.04	6.05	35.00	26.30	1.82	3.16

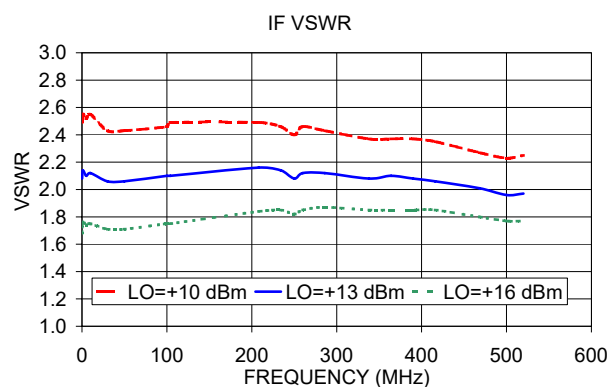
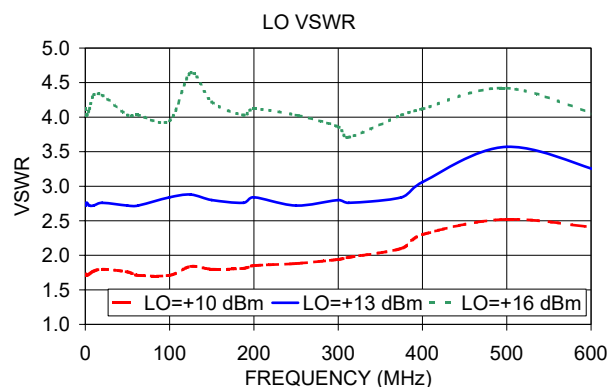
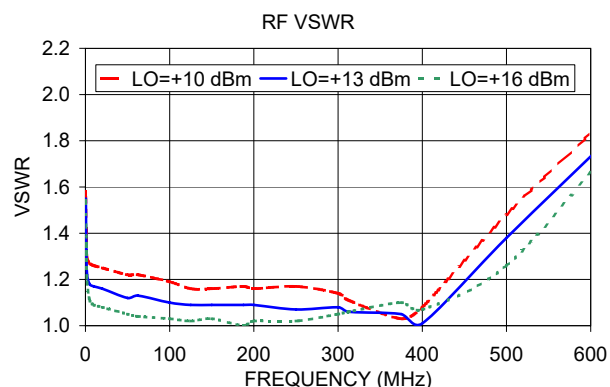
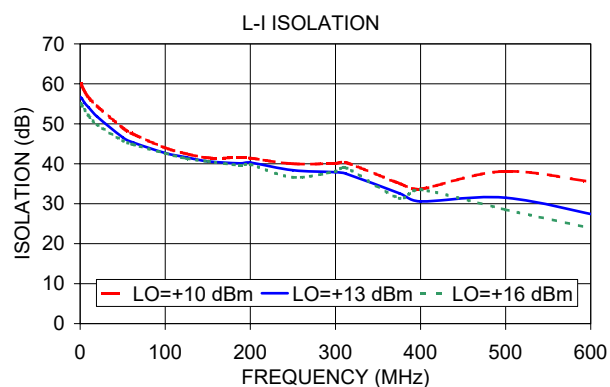
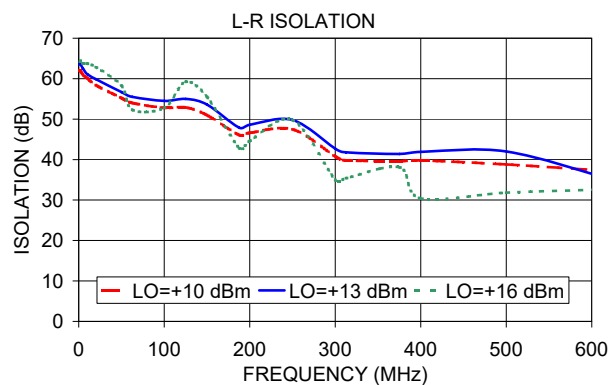
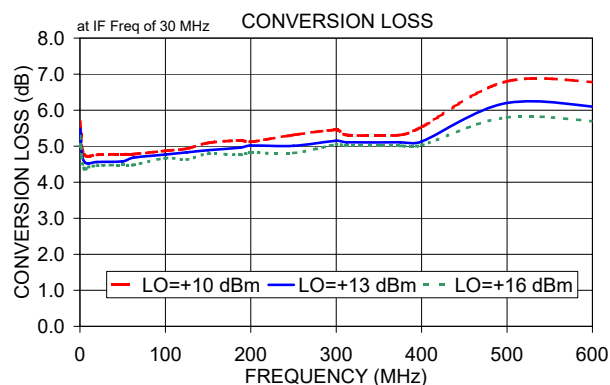
Electrical Schematic



Notes

- 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.
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