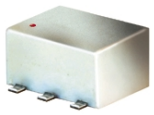
Surface Mount

Frequency Mixer

ADEX-10+
ADEX-10

Level 7 (LO Power +7 dBm) 10 to 1000 MHz



CASE STYLE: CD542
PRICE: $2.95 ea. QTY (10-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

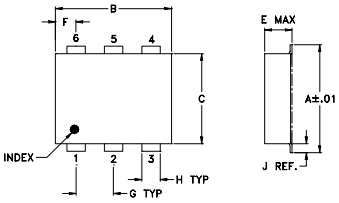
Maximum Ratings

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

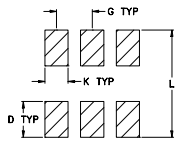
Pin Connections

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

Outline Drawing



PCB Land Pattern



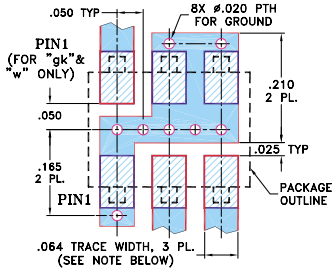
Suggested Layout,
Tolerance to be within ±.002

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: 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

- excellent L-R isolation, 60 dB typ.
- flat conversion loss, ±0.2dB typ over entire band
- low conversion loss, 6.8 dB typ.
- good VSWR, 2:1 typ. for LO, 1.4:1typ. for RF, 1.8:1 typ. for IF
- good performance to 1500 MHz
- aqueous washable
- protected by U.S. Patents 6,133,525 and 6,947,717

Applications

- cellular

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	L		M		U		L		M		U		
f_L-f_U		$\overline{X}$	σ	Max.	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
10-1000	DC-800	6.8	0.10	7.8†	8.3†	80	55	60	40	47	37	40	26	33	20	24	13	16

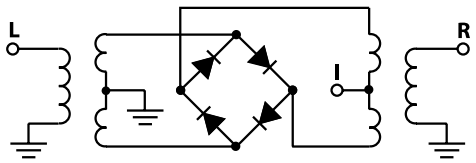
1 dB COMP.: +1 dBm typ.
†Conversion loss increases 0.5 dB when IF is above 150 MHz

L = low range [f_L to 10 f_L]
m= mid band [2f_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

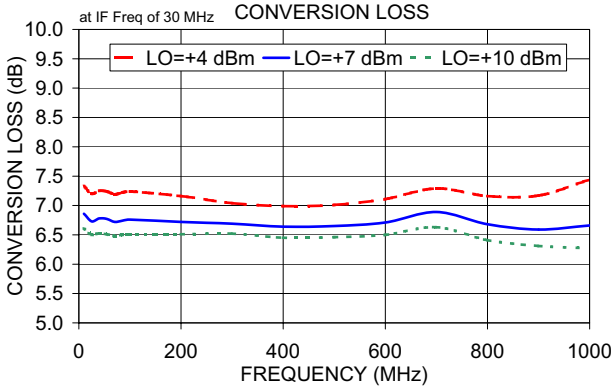
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
10.00	40.00	6.86	80.91	62.86	1.43	1.59
25.00	55.00	6.73	80.18	55.33	1.43	1.62
40.00	70.00	6.78	78.88	51.04	1.41	1.56
55.00	85.00	6.77	77.53	47.55	1.40	1.55
70.00	100.00	6.72	77.00	45.78	1.41	1.61
85.00	115.00	6.74	75.52	44.15	1.40	1.62
100.00	130.00	6.76	75.63	42.50	1.39	1.61
200.00	230.00	6.72	76.11	36.93	1.36	1.61
300.00	330.00	6.69	77.57	34.10	1.35	1.64
400.00	430.00	6.64	62.74	33.06	1.35	1.66
500.00	530.00	6.65	56.43	32.02	1.35	1.72
600.00	630.00	6.71	53.73	30.71	1.34	1.77
700.00	730.00	6.89	50.35	29.89	1.36	1.91
800.00	830.00	6.68	47.01	28.37	1.34	1.83
900.00	930.00	6.59	48.15	26.00	1.23	2.02
1000.00	1030.00	6.66	52.10	23.48	1.11	2.09

Electrical Schematic

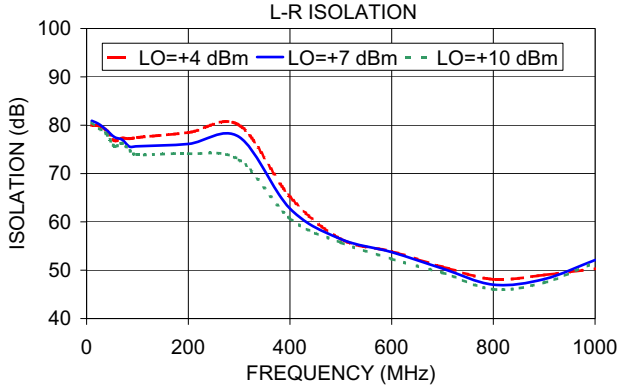


Performance Charts

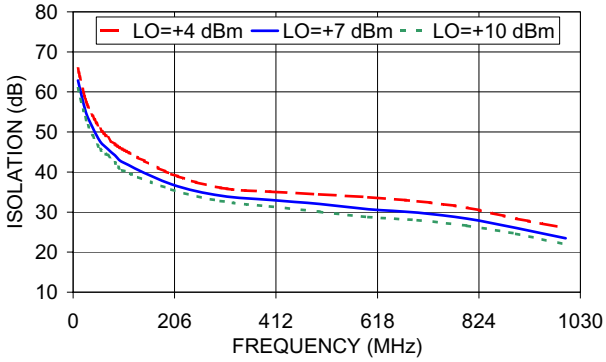
ADEX-10
at IF Freq of 30 MHz CONVERSION LOSS



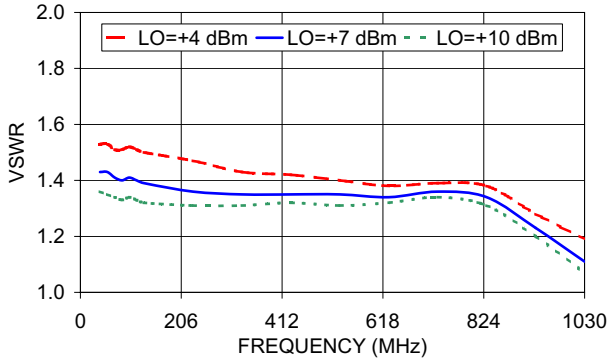
ADEX-10
L-R ISOLATION



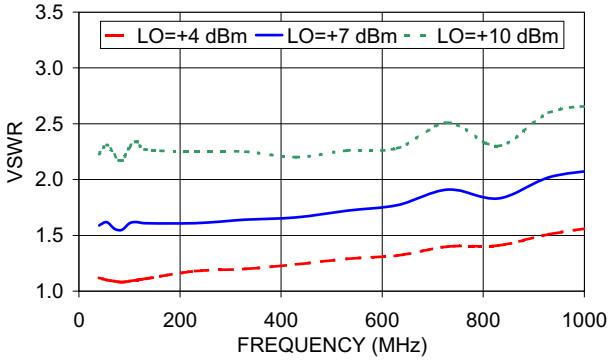
ADEX-10
L-I ISOLATION



ADEX-10
RF VSWR



ADEX-10
LO VSWR



ADEX-10
IF VSWR