

Surface Mount High Reliability Mixer

ADE-R1L+

Level 3 (LO Power +3 dBm) 2 to 500 MHz



CASE STYLE: CD542

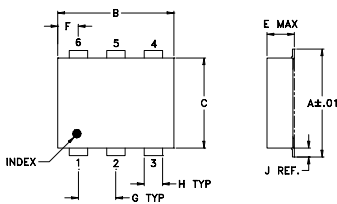
Maximum Ratings

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.	

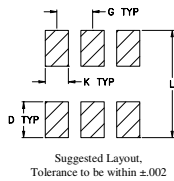
Pin Connections

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

Outline Drawing



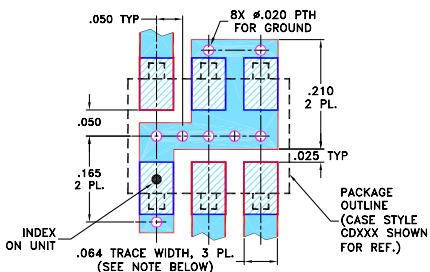
PCB Land Pattern



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

- hermetically sealed ceramic quad
- low conversion loss, 5.6 dB typ.
- excellent L-R isolation, 55 dB typ.
- low profile package
- aqueous washable
- protected by US patent 6,133,525

Applications

- cellular
- instrumentation

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 Range	L	M	U	L	M	U								
f_L - f_U		\bar{X}	σ	Max.	Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.						
2-500	DC-500	5.6	0.10	7.2	8.8	68	55	55	42	44	35	60	45	45	32	35	25	14

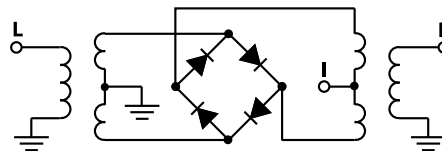
1 dB COMP: 0 dBm typ.
See Notes below.

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 L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +3dBm	LO +3dBm	LO +3dBm	LO +3dBm	LO +3dBm
2.00	32.00	6.61	65.26	57.10	1.65	1.65
6.00	36.00	5.88	65.10	56.12	1.28	1.64
8.00	38.00	5.76	65.14	55.62	1.23	1.65
10.00	40.00	5.69	65.06	55.20	1.21	1.65
59.00	89.00	5.63	62.33	47.86	1.11	1.65
108.00	138.00	5.66	57.94	44.52	1.10	1.66
157.00	187.00	5.66	54.76	42.14	1.08	1.64
206.00	236.00	5.69	51.63	41.58	1.07	1.70
230.50	260.50	5.75	50.62	40.71	1.07	1.71
255.00	285.00	5.74	49.85	39.80	1.06	1.67
279.50	309.50	5.76	48.93	39.70	1.05	1.74
304.00	334.00	5.79	47.42	39.78	1.05	1.83
328.50	358.50	5.86	46.02	39.31	1.05	1.78
353.00	383.00	5.87	44.99	38.34	1.05	1.73
377.50	407.50	5.90	44.68	37.39	1.06	1.85
402.00	432.00	6.00	44.64	36.12	1.08	1.94
426.50	456.50	6.05	44.52	34.99	1.09	1.84
451.00	481.00	6.09	43.69	33.80	1.10	1.83
475.50	505.50	6.09	43.36	33.28	1.11	2.02
500.00	530.00	6.17	43.65	33.31	1.12	2.03

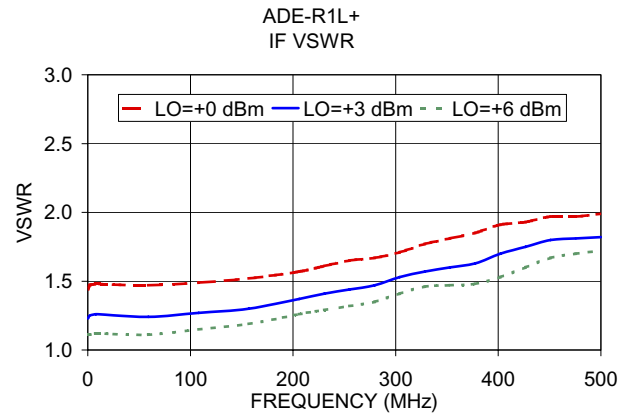
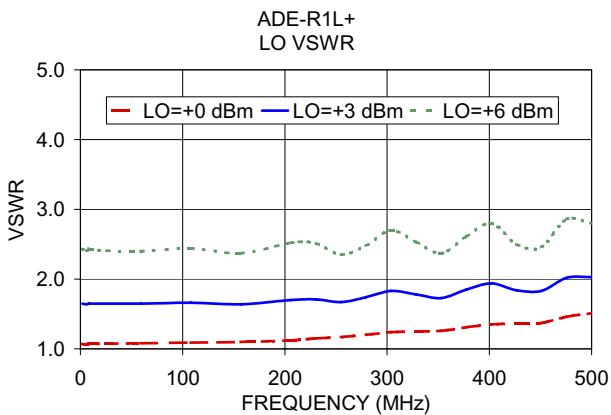
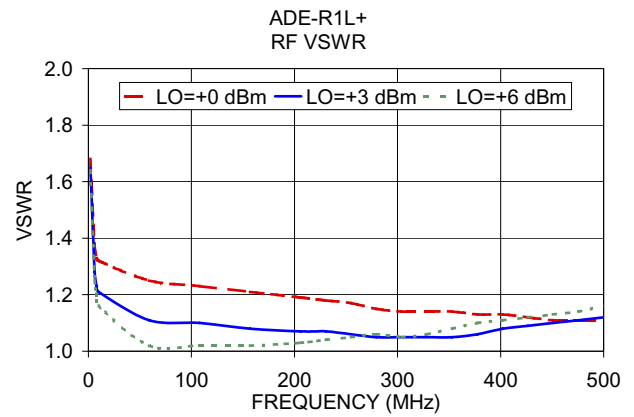
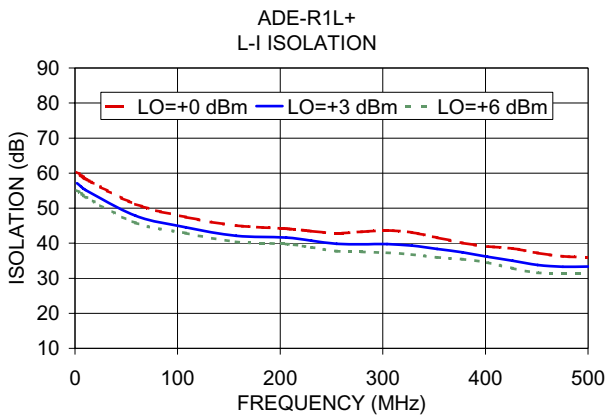
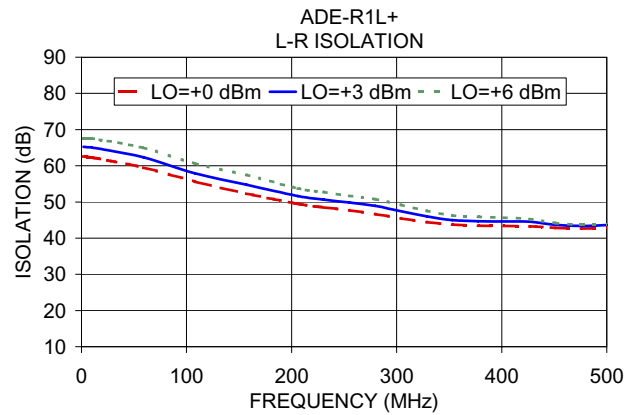
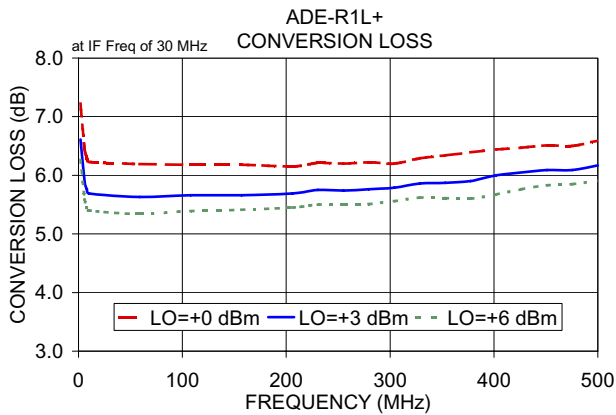
Electrical Schematic



Notes

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