

# High Reliability Mixer

## ADE-R901+

Level 7 (LO Power +7 dBm) 300 to 1000 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	4
IF	3
GROUND	1,2,5

### Features

- hermetically sealed ceramic quad
- low conversion loss, 5.9 dB typ.
- excellent L-R isolation, 38 dB typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

### Applications

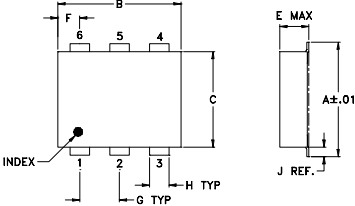
- cellular
- ISM/GSM

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

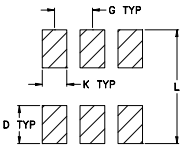
**Available Tape and Reel at no extra cost**

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

### Outline Drawing



#### PCB Land Pattern

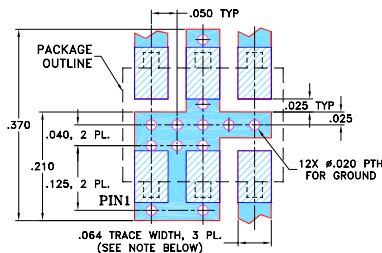


Suggested Layout, Tolerance to be within ±.002

### 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-02 Suggested PCB Layout (PL-051)



- 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

### Electrical Specifications

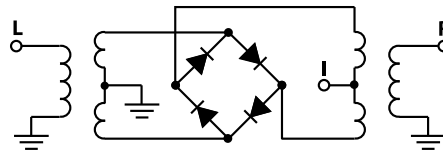
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	$\bar{X}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	Typ.
300-1000	DC-200	5.9	0.10	7.5	38	25	28	20	13

1 dB COMP: +5 dBm typ.

### Typical Performance Data

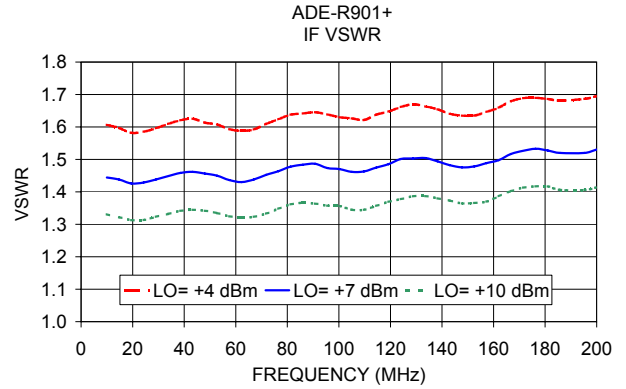
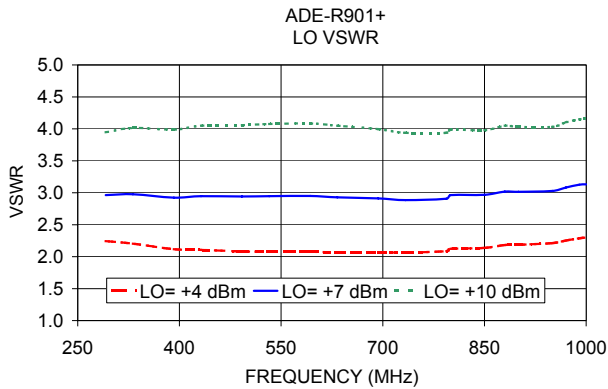
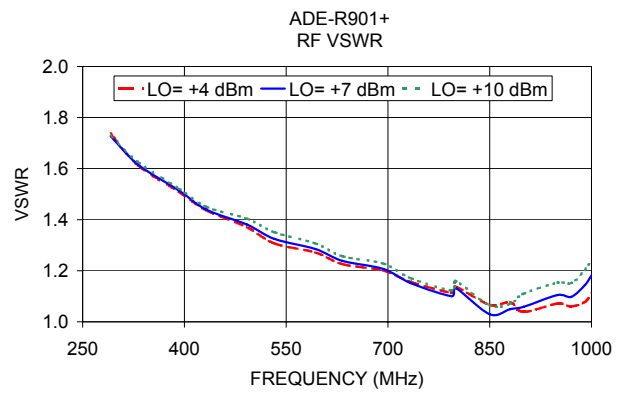
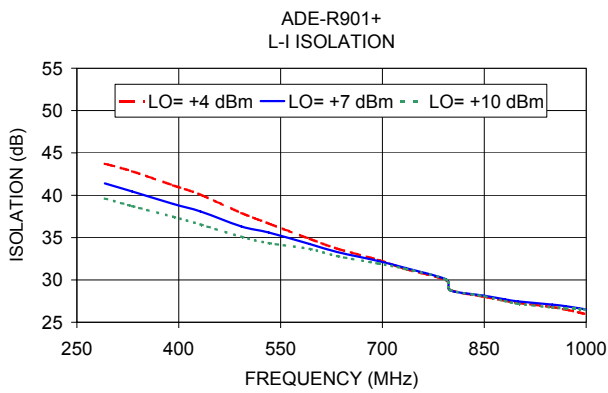
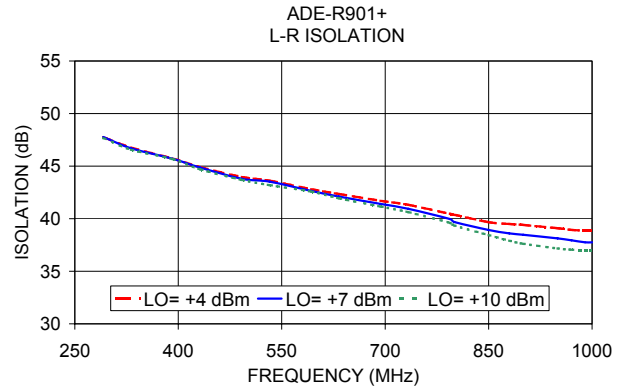
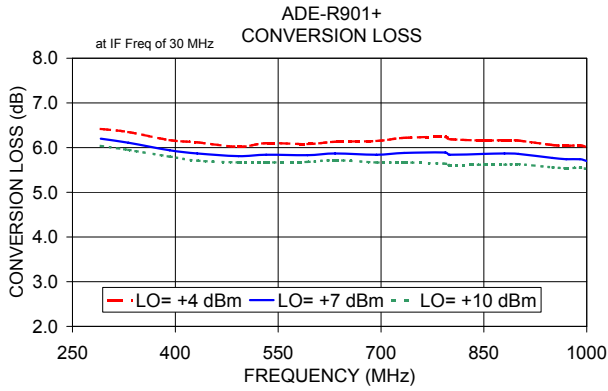
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
291.24	321.24	6.20	47.77	41.40	1.73	2.96
331.44	361.44	6.11	46.70	40.45	1.62	2.98
391.75	421.75	5.94	45.70	38.98	1.51	2.92
431.96	461.96	5.87	44.86	38.09	1.44	2.95
492.27	522.27	5.81	43.80	36.31	1.38	2.94
532.47	562.47	5.84	43.52	35.60	1.33	2.95
592.78	622.78	5.83	42.64	34.24	1.29	2.95
632.99	662.99	5.87	42.11	33.30	1.24	2.93
693.30	723.30	5.84	41.41	32.25	1.21	2.91
733.51	763.51	5.88	40.94	31.42	1.15	2.89
793.81	823.81	5.89	39.97	30.05	1.10	2.91
800.00	830.00	5.84	39.69	28.77	1.13	2.96
850.00	880.00	5.86	38.93	28.14	1.03	2.97
880.00	910.00	5.87	38.60	27.71	1.05	3.02
900.00	930.00	5.86	38.47	27.46	1.06	3.01
940.00	970.00	5.77	38.06	27.07	1.10	3.01
950.00	980.00	5.77	38.13	27.08	1.10	3.03
970.00	1000.00	5.74	37.95	26.90	1.10	3.08
990.00	1020.00	5.74	37.75	26.65	1.14	3.13
1000.00	1030.00	5.70	37.75	26.52	1.18	3.13

### Electrical Schematic



Notes

- A. 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.  
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
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