

# Frequency Mixer

## ADE-30+

Level 7 (LO Power +7 dBm) 200 to 3000 MHz



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"	10, 20, 50, 100, 200, 500
13"	500, 1000

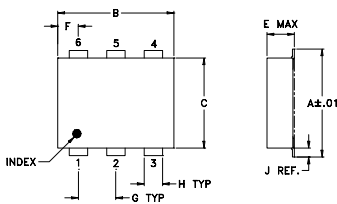
### Maximum Ratings

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.	

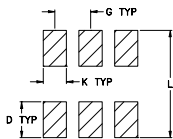
### Pin Connections

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

### Outline Drawing



#### PCB Land Pattern

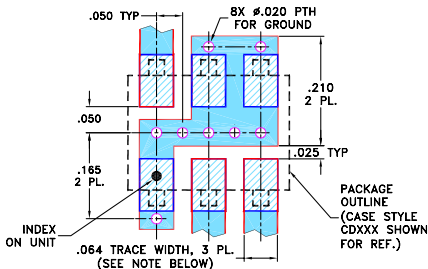


Suggested Layout. Tolerance to be within ±.002

### 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.

- DEMOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DEMOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### 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.  
C. The parts covered by this specification document are subject to Mini-Circuit's standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- low conversion loss, 4.5 dB typ.
- excellent L-R isolation, 35 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

### Applications

- cellular
- PCN
- instrumentation
- ISM

### Electrical Specifications

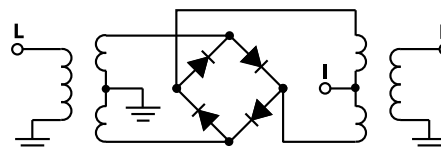
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
		Typ.	Min.	Typ.	Min.	
200-3000	DC-1000	4.5	20	9.0	9.8	35

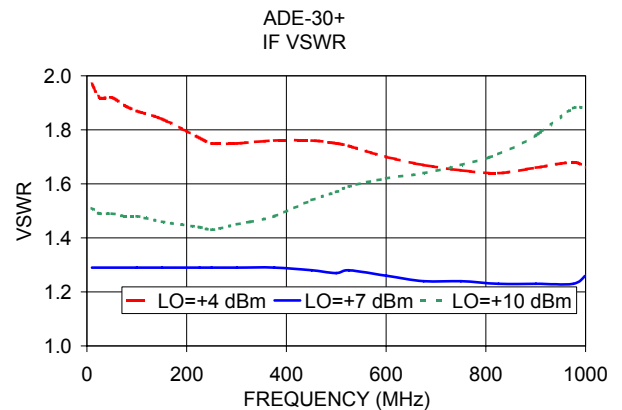
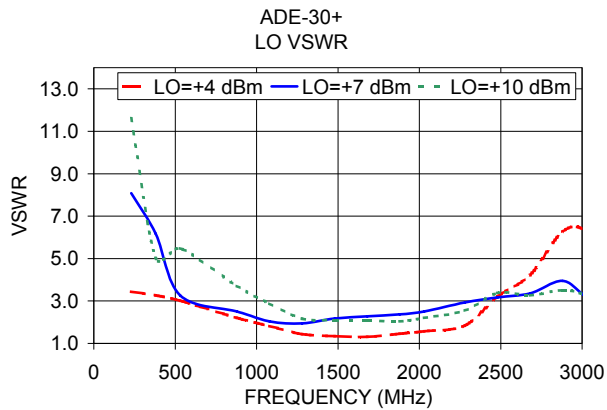
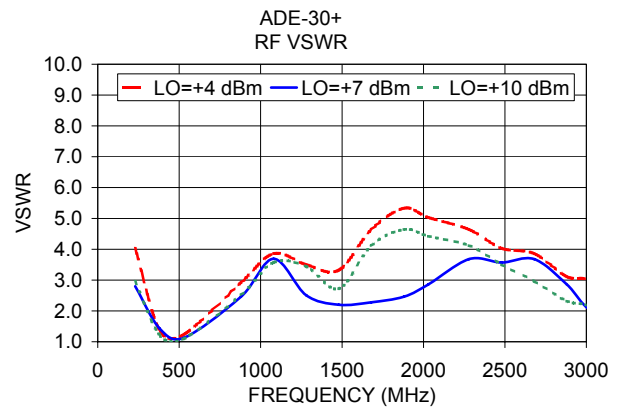
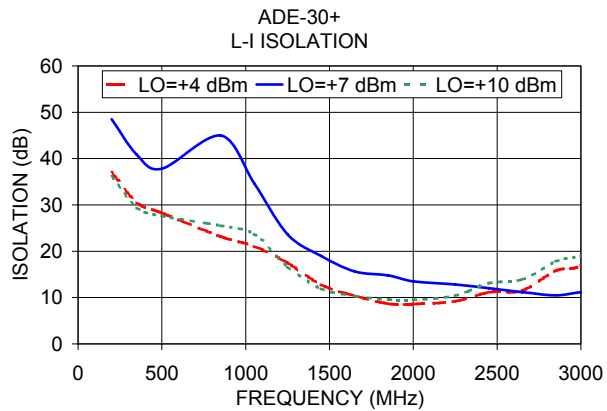
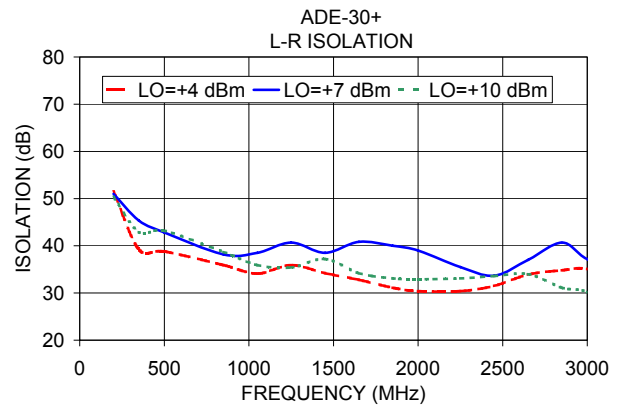
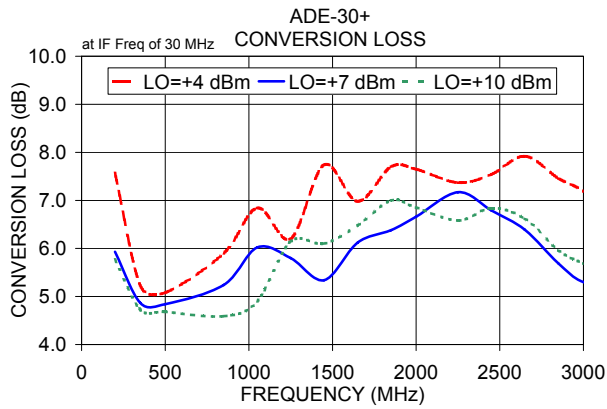
1 dB COMP.: +1 dBm typ.  
m=mid band [2f<sub>L</sub> to f<sub>U</sub>/2]

### Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
200.00	230.00	5.93	51.00	48.50	2.80
350.00	380.00	4.87	45.33	40.83	1.43
500.00	530.00	4.84	42.83	37.83	1.13
850.00	880.00	5.24	38.17	45.00	2.46
1050.00	1080.00	6.02	38.50	34.67	3.69
1250.00	1280.00	5.80	40.67	23.67	2.51
1450.00	1480.00	5.34	38.50	19.00	2.20
1650.00	1680.00	6.12	40.83	15.66	2.28
1850.00	1880.00	6.38	40.00	14.77	2.46
2000.00	2030.00	6.66	39.00	13.50	2.86
2250.00	2280.00	7.17	35.50	12.83	3.68
2450.00	2480.00	6.79	33.67	12.00	3.57
2650.00	2680.00	6.39	37.00	11.16	3.68
2850.00	2880.00	5.69	40.67	10.50	2.86
3000.00	3030.00	5.30	37.17	11.17	2.01

### Electrical Schematic





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