

Frequency Mixer

ADE-20+

Level 7 (LO Power +7 dBm) 1500 to 2000 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"	20, 50, 100, 200, 500
13"	500, 1000

Maximum Ratings

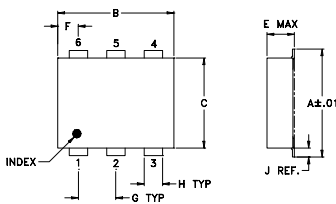
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Permanent damage may occur if any of these limits are exceeded.

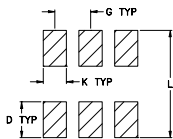
Pin Connections

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

Outline Drawing



PCB Land Pattern

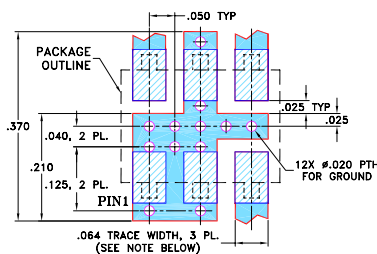


Suggested Layout.
Tolerance to be within ±.002

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-02 Suggested PCB Layout (PL-051)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .050" ± .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

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

Features

- low conversion loss, 5.4 dB typ.
- excellent isolation, 31 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- digital cellular
- digital cordless phone
- PCN

Electrical Specifications

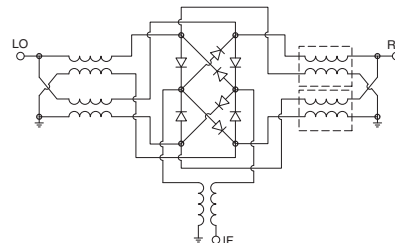
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
		Typ.	Min.	Typ.	Min.	
1500-2000	5.4	31	22	28	20	14

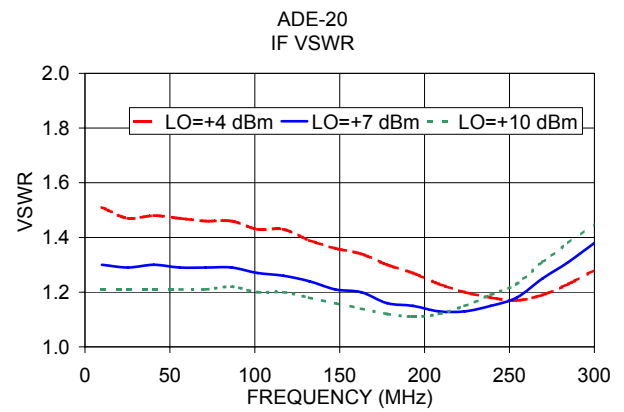
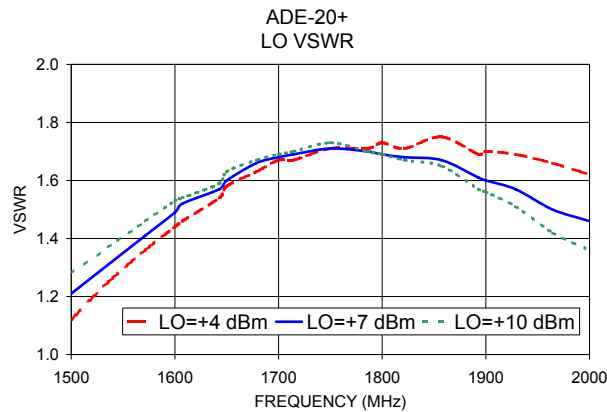
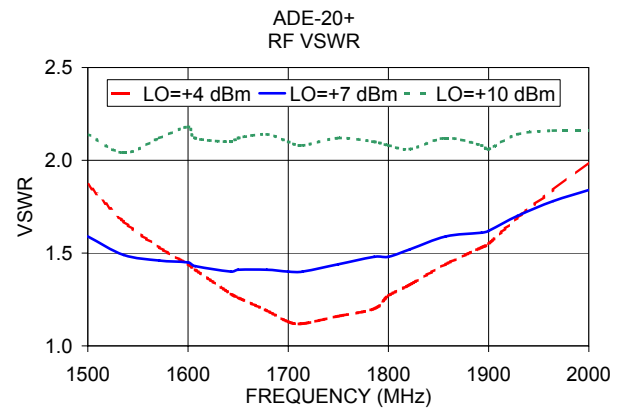
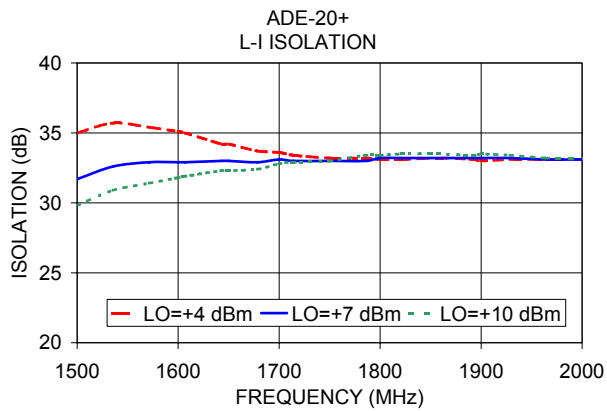
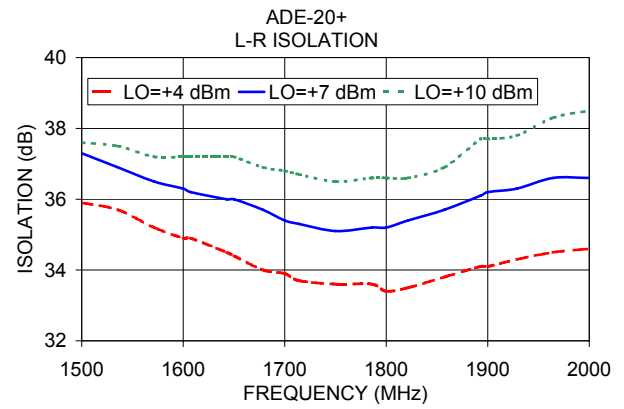
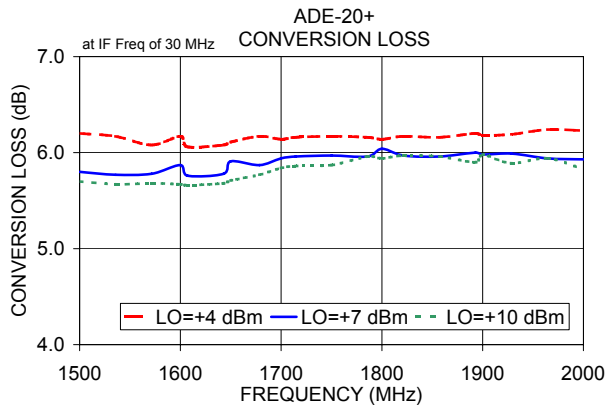
1 dB COMP.: +1 dBm typ.

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
1500.00	5.80	37.30	31.70	1.59	1.21
1535.71	5.77	36.90	32.60	1.49	1.31
1571.43	5.78	36.50	32.90	1.46	1.41
1600.00	5.87	36.30	32.90	1.45	1.49
1607.14	5.76	36.20	32.90	1.43	1.52
1642.86	5.78	36.00	33.00	1.40	1.57
1650.00	5.91	36.00	33.00	1.41	1.60
1678.57	5.87	35.70	32.90	1.41	1.66
1700.00	5.94	35.40	33.10	1.40	1.68
1714.29	5.96	35.30	33.00	1.40	1.69
1750.00	5.97	35.10	33.00	1.44	1.71
1785.71	5.96	35.20	33.00	1.48	1.70
1800.00	6.04	35.20	33.20	1.48	1.69
1821.43	5.97	35.40	33.20	1.52	1.68
1857.14	5.96	35.70	33.20	1.59	1.67
1892.86	6.00	36.10	33.20	1.61	1.61
1900.00	5.98	36.20	33.20	1.62	1.60
1928.57	5.99	36.30	33.20	1.70	1.57
1964.29	5.94	36.60	33.10	1.78	1.50
2000.00	5.93	36.60	33.10	1.84	1.46

Electrical Schematic





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