

Surface Mount Frequency Mixer

Level 7 (LO Power +7 dBm) 2 to 600 MHz

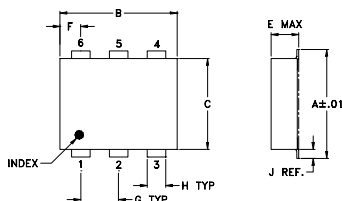
Maximum Ratings

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.	

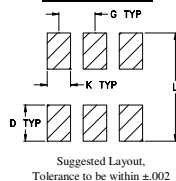
Pin Connections

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

Outline Drawing



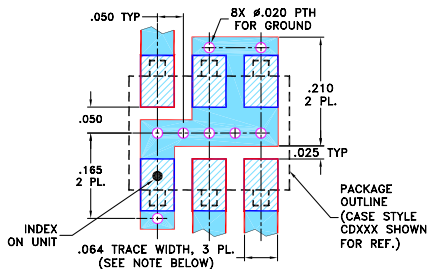
PCB Land Pattern



Outline Dimensions (inch)

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

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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Features

- low conversion loss, 5.3 dB typ.
- excellent L-R isolation, 50 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- VSAT systems
- instrumentation
- cellular

ADE-1ASK+



Generic photo used for illustration purposes only
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
13"	500, 1000

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)
LO/RF f_L - f_U	IF	Mid-Band m		Total Range Max.		L	M	U	L	M	U	
		$\bar{X}$	σ			Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	
						55	45	50	30	40	25	
2-600	DC-600	5.3	0.10	6.5	7.5	55	45	50	30	40	25	16

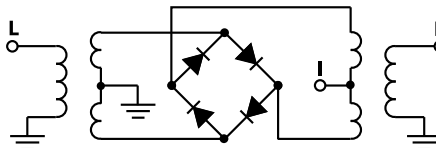
1 dB COMP.: +1 dBm typ.
Phase detection, positive polarity

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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
1.00	31.00	6.13	67.70	64.10	1.38	2.58
2.00	32.00	5.68	67.90	64.20	1.22	2.55
2.18	32.18	5.68	67.90	64.00	1.21	2.52
4.73	34.73	5.45	66.90	64.10	1.12	2.55
10.29	40.29	5.40	66.00	63.10	1.09	2.52
22.37	52.37	5.49	63.30	61.10	1.07	2.52
48.66	78.66	5.44	59.70	57.50	1.04	2.52
105.82	135.82	5.42	54.50	52.40	1.00	2.52
230.13	260.13	5.49	48.90	47.20	1.05	2.61
500.50	530.50	5.96	46.80	38.20	1.25	2.88
556.00	586.00	6.18	47.40	36.40	1.20	2.92
600.00	630.00	6.29	45.90	35.20	1.21	2.96
611.50	641.50	6.31	45.10	35.00	1.21	2.88
667.00	697.00	6.43	42.60	31.90	1.26	3.21
722.50	752.50	6.81	41.00	30.90	1.38	3.01
778.00	808.00	6.93	38.60	29.20	1.58	3.21
833.50	863.50	7.22	36.80	28.10	1.78	3.38
889.00	919.00	7.46	35.20	28.60	1.99	3.16
944.50	974.50	7.58	33.10	26.60	2.25	3.64
1000.00	1030.00	7.83	30.70	24.00	2.49	3.64

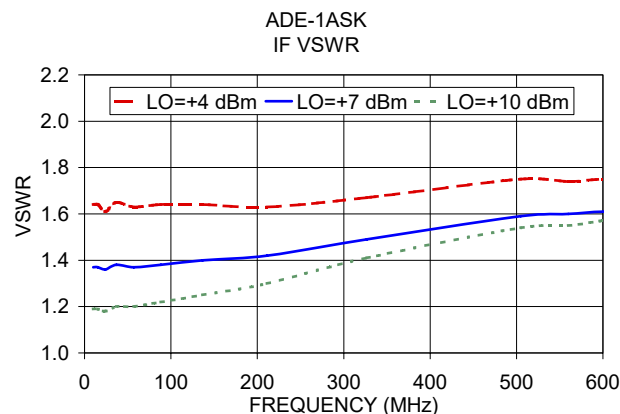
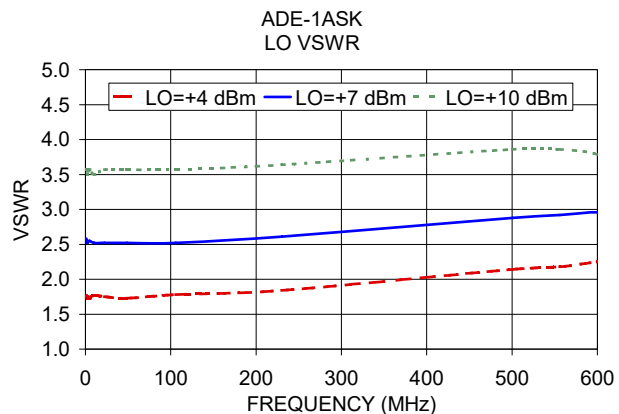
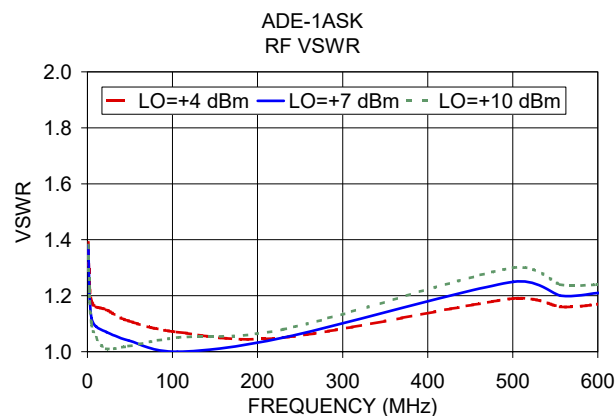
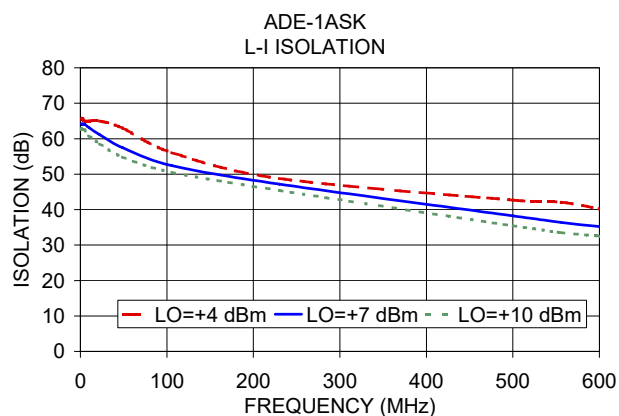
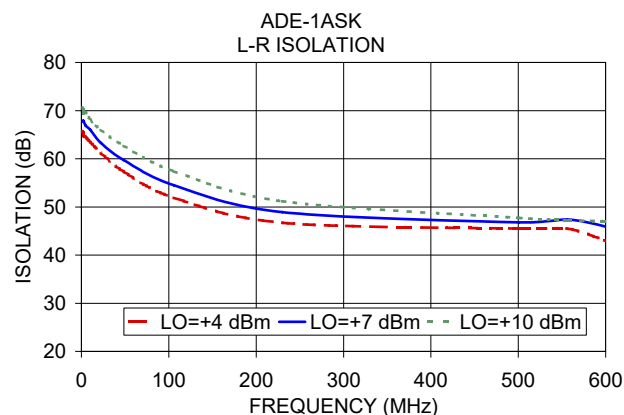
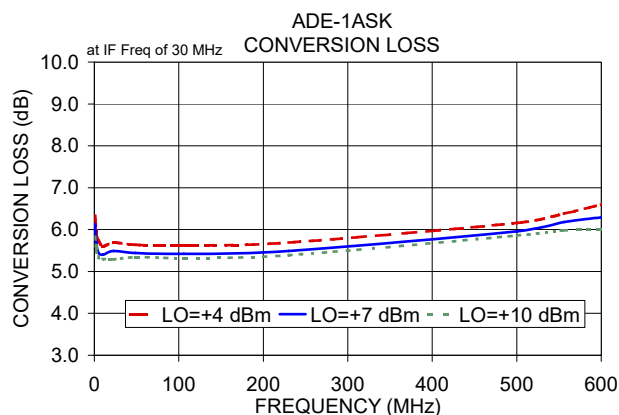
Electrical Schematic



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