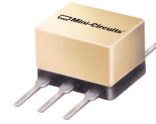


# Surface Mount Frequency Mixer

# ASK-1-W38+ ASK-1-W38

## Level 7 (LO Power +7 dBm) 1 to 600 MHz



CASE STYLE: W38

**+RoHS Compliant**

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

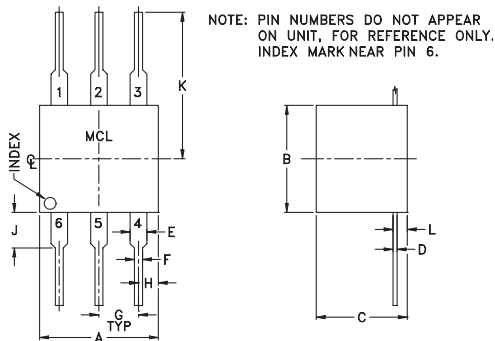
### Maximum Ratings

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	1
RF	4
IF	5
GROUND	2,3,6

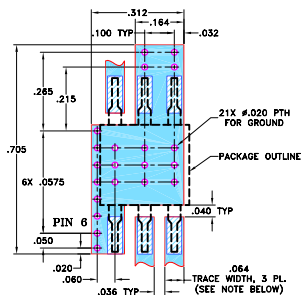
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.30	.27	.23	.010	.042	.020
7.62	6.86	5.84	0.25	1.07	0.51
G	H	J	K	L	wt
.100	.05	.09	.31	.036	grams
2.54	1.27	2.29	7.87	0.91	0.50

**Demo Board MCL P/N: TB-03**  
**Suggested PCB Layout (PL-082)**



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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

- low conversion loss, 5.58 dB typ.
- good L-R isolation, 35 dB typ.

### Applications

- HF/VHF/UHF
- FM radio
- federal & defense communications

### Electrical Specifications

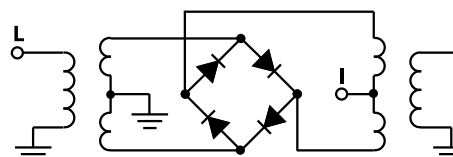
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)										
		L	M	U	L	M	U											
1-600	DC-600	5.58	.06	7.0	8.5	50	30	35	25	30	20	45	35	30	20	25	15	14

1 dB COMPR.: +1 dBm typ. 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  $f_u$ ]  
 $\bar{X}$  = Mid-Band Max.  $\sigma$  = Total Range Max. 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	5.34	41.73	40.78	1.15	3.01
5.00	35.00	5.14	43.83	48.03	1.12	2.92
10.00	40.00	5.10	44.31	49.23	1.10	2.87
20.00	50.00	5.10	43.27	47.31	1.09	2.86
50.00	80.00	5.07	41.89	43.53	1.08	2.67
100.00	70.00	4.98	41.22	41.32	1.08	2.75
124.93	94.93	5.07	40.40	38.91	1.06	2.68
166.24	136.24	5.14	40.04	37.11	1.04	2.68
207.55	177.55	5.19	39.72	36.06	1.03	2.64
228.21	198.21	5.11	39.43	34.77	1.01	2.61
269.52	239.52	5.17	39.11	33.40	1.03	2.72
310.83	280.83	5.34	38.68	32.44	1.06	2.70
352.14	322.14	5.31	36.90	31.98	1.10	2.84
372.79	342.79	5.36	34.94	31.09	1.15	3.08
414.10	384.10	5.33	33.57	31.83	1.20	3.20
455.41	425.41	5.57	32.53	31.14	1.26	3.16
496.72	466.72	5.67	30.97	29.46	1.31	3.29
538.03	508.03	5.75	30.78	28.57	1.34	3.28
558.69	528.69	5.72	29.47	27.11	1.40	3.48
600.00	570.00	5.82	28.98	25.59	1.47	3.57

### Electrical Schematic

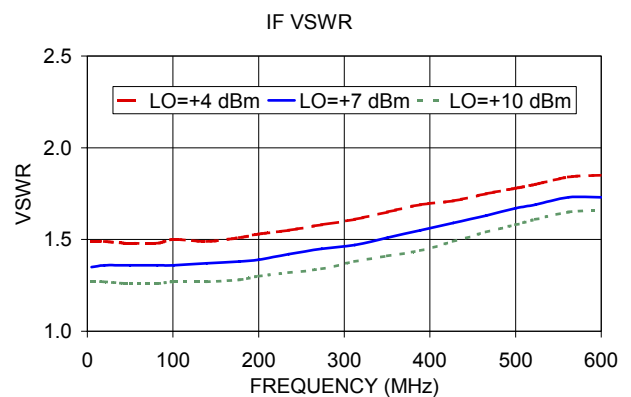
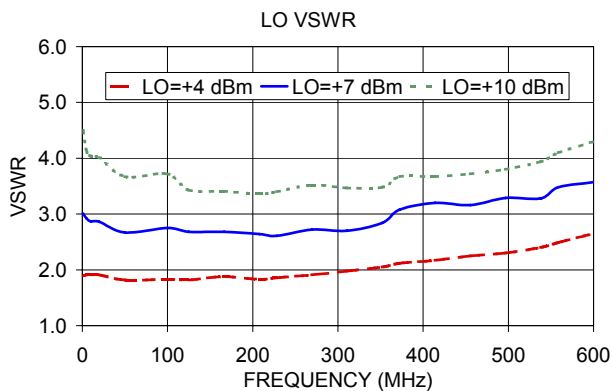
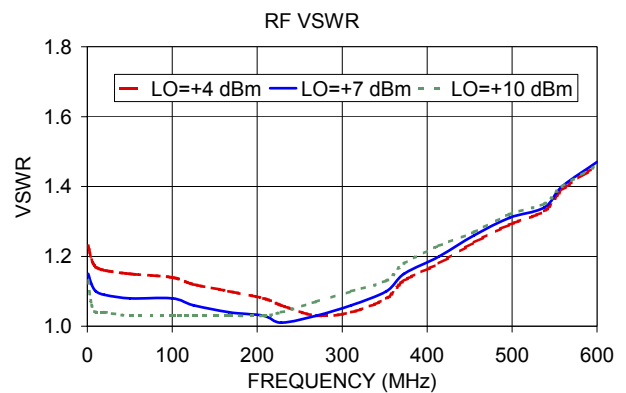
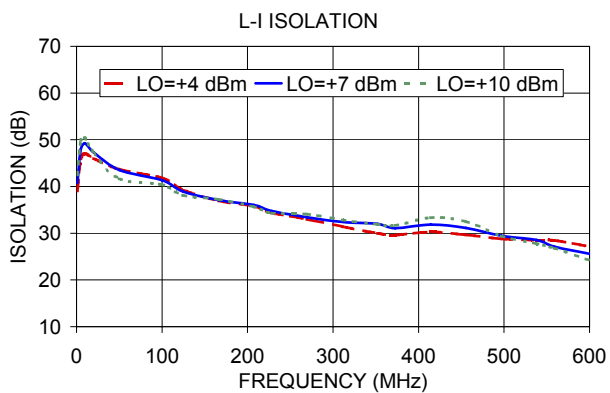
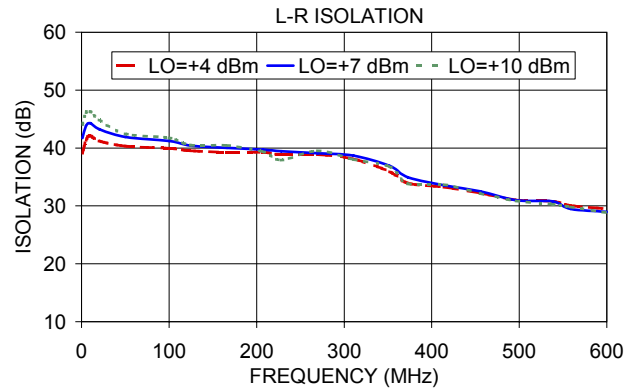
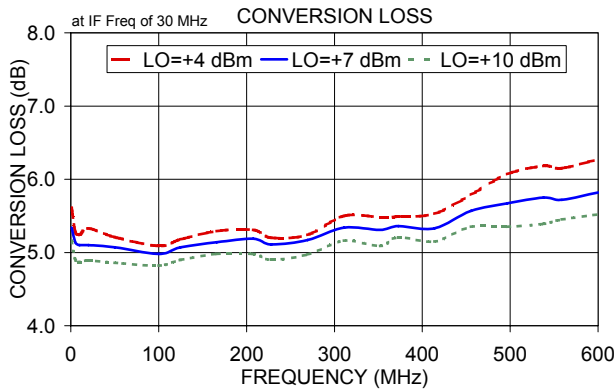


### Notes

- 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.  
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## Performance Charts



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