

# Surface Mount Frequency Mixer

Level 7 (LO Power +7 dBm) 1 to 1000 MHz

## ASK-2-KK81+ ASK-2-KK81



### 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

### Features

- low conversion loss, 6.79 dB typ.
- wideband, 1 to 1000 MHz

CASE STYLE: KK81  
PRICE: \$8.25 ea. QTY (1-9)

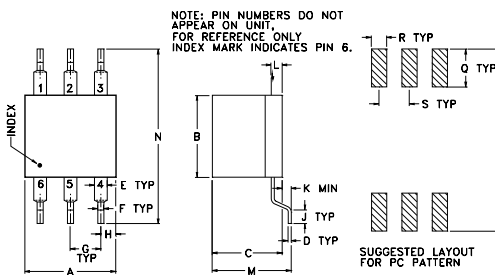
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

### Applications

- HF/VHF/UHF
- cellular
- federal & defense communications

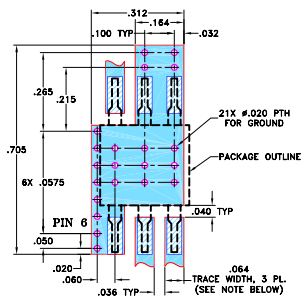
### Outline Drawing



### Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.30	.27	.23	.010	.042	.020	.100	.05	.05
7.62	6.86	5.84	0.25	1.07	0.51	2.54	1.27	1.27
K	L	M	N	P	Q	R	S	wt
.020	.036	.26	.575	.600	.125	.050	.100	grams
0.51	0.91	6.60	14.61	15.24	3.18	1.27	2.54	0.50

### Demo Board MCL P/N: TB-174 Suggested PCB Layout (PL-082)



### Electrical Specifications

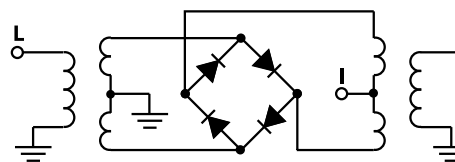
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)						
		L	M	U	L	M	U							
1-1000	DC-1000	60	40	35	18	26	16	50	30	25	17	15	10	12

1 dB COMPR.: +1 dBm typ. For phase detection, DC output positive polarity with in-phase LO&RF  
L = low range [ $f_1$  to  $10 f_1$ ] M = mid range [ $10 f_1$  to  $f_1/2$ ] U = upper range [ $f_1/2$  to  $f_1$ ]  
 $\bar{X}$  = Mid-Band  $\sigma$  = Total Range Max.

### Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)		Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
1.00	31.00	7.37	83.47	91.97	1.38	2.66
2.00	32.00	7.07	80.37	87.67	1.29	2.56
5.00	35.00	6.73	72.27	82.47	1.24	2.67
10.00	40.00	6.62	66.17	77.87	1.23	2.56
20.00	50.00	6.55	61.04	73.34	1.23	2.51
50.00	80.00	6.57	52.51	61.14	1.22	2.53
97.68	67.68	6.59	47.22	54.12	1.23	2.51
100.00	70.00	6.59	47.11	53.57	1.23	2.49
194.36	164.36	6.53	41.80	49.32	1.24	2.49
200.00	170.00	6.53	41.66	49.33	1.27	2.49
291.03	261.03	6.57	38.25	47.35	1.32	2.44
387.71	357.71	6.67	35.81	42.38	1.34	2.56
484.39	454.39	6.68	33.54	37.69	1.35	2.55
500.00	470.00	6.68	33.24	36.29	1.40	2.64
581.07	551.07	6.87	31.64	32.31	1.52	3.03
677.74	647.74	7.12	29.02	27.88	1.69	3.49
774.42	744.42	7.40	26.95	24.13	1.93	3.33
871.10	841.10	7.80	25.84	20.52	2.20	3.00
967.77	937.77	8.22	25.87	17.33	2.45	2.97
1000.00	970.00	8.38	25.95	16.29	2.58	2.98

### Electrical Schematic



**Mini-Circuits®**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits 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-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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Page 1 of 2

## Performance Charts

