

Surface Mount Frequency Mixer

ASK-1-KK81+ ASK-1-KK81

Level 7 (LO Power +7 dBm) 1 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 | 1 |
| RF | 4 |
| IF | 5 |
| GROUND | 2,3,6 |

Features

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

CASE STYLE: KK81
PRICE: \$6.95 ea. QTY (1-9)

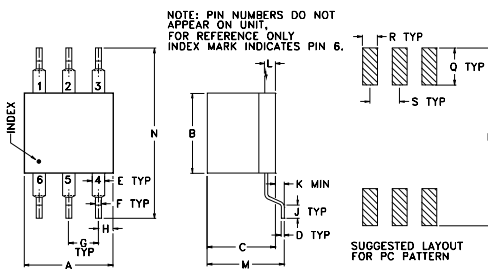
Applications

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

+ 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.

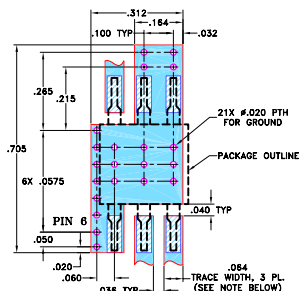
Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J |
|------|------|------|-------|-------|------|------|------|-------|
| .30 | .27 | .23 | .010 | .042 | .100 | .05 | .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

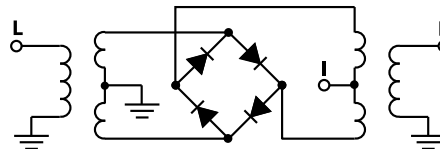
| FREQUENCY (MHz) | CONVERSION LOSS (dB) | LO-RF ISOLATION (dB) | | | LO-IF ISOLATION (dB) | | | IP3 at center band (dBm) | | | | | | | | | | |
|-----------------|----------------------|----------------------|-----|-----|----------------------|----|----|--------------------------|----|----|----|----|----|----|----|----|----|----|
| | | L | M | U | L | M | U | | | | | | | | | | | |
| 1-600 | 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]

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



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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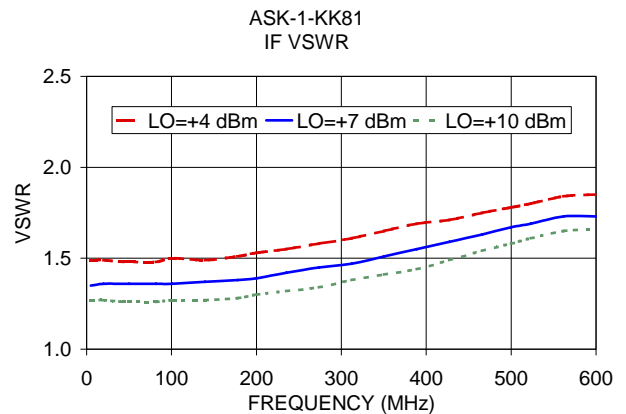
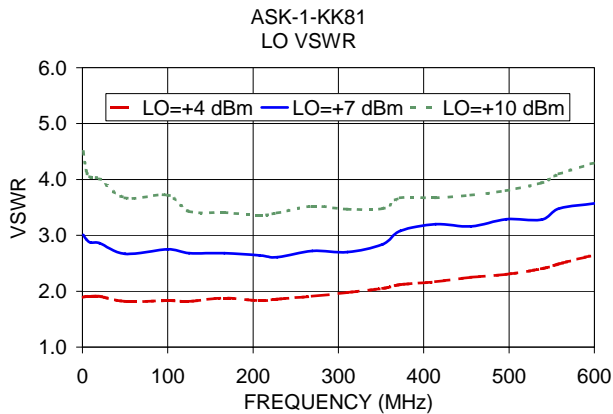
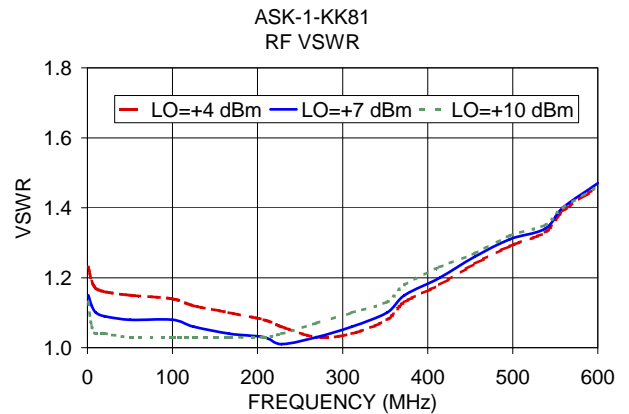
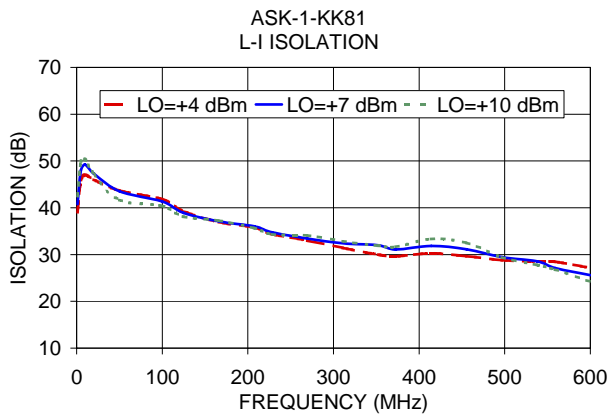
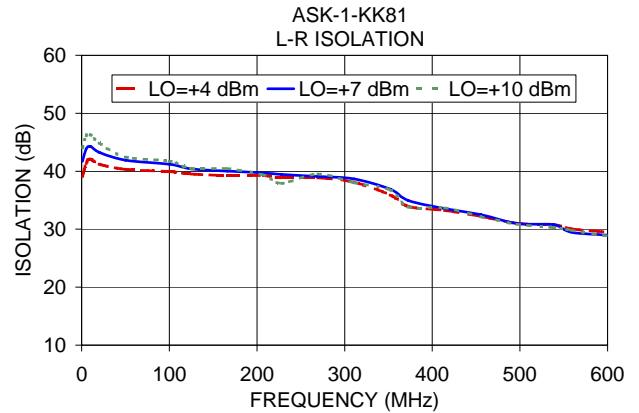
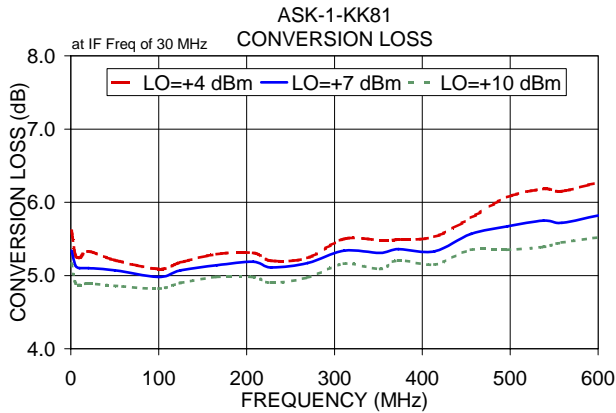
IF/RF MICROWAVE COMPONENTS

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ASK-1-KK81
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Page 1 of 2

Performance Charts

ASK-1-KK81+ ASK-1-KK81



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