

Features

- Linear tuning characteristics
- Low phase noise
- Low pushing
- Aqueous washable

Applications

- Wireless communications
- Frequency synthesizers



CASE STYLE: CK605
PRICE: \$15.95 ea. QTY (5-49)

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

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Electrical Specifications

| MODEL NO. | FREQ. (MHz) | | POWER OUTPUT (dBm) | PHASE NOISE dBc/Hz SSB at offset frequencies, kHz | | | | TUNING | | | | NON HARMONIC SPURIOUS (dBc) | HARMONICS (dBc) | | PULLING pk-pk @12 dB (MHz) | PUSHING (MHz/V) | DC OPERATING POWER | | | |
|----------------|-------------|------|--------------------|---|------|------|------|--------|-------------------|---------------------|---------------|-----------------------------|---------------------------------|------|----------------------------|-----------------|--------------------|-------------|--------------|----|
| | Min. | Max. | | Typ. | 1 | 10 | 100 | 1000 | VOLTAGE RANGE (V) | SENSITIVITY (MHz/V) | PORT CAP (pF) | | 3 dB MODULATION BANDWIDTH (MHz) | Typ. | | | Max. | Vcc (volts) | Current (mA) | |
| ROS-2150-1019+ | 2000 | 2130 | +5 | -75 | -101 | -122 | -142 | 0.5 | 10 | 21 | 27 | 12 | 300 | -90 | -30 | -23 | 4.5 | 0.2 | 5 | 36 |

Pin Connections

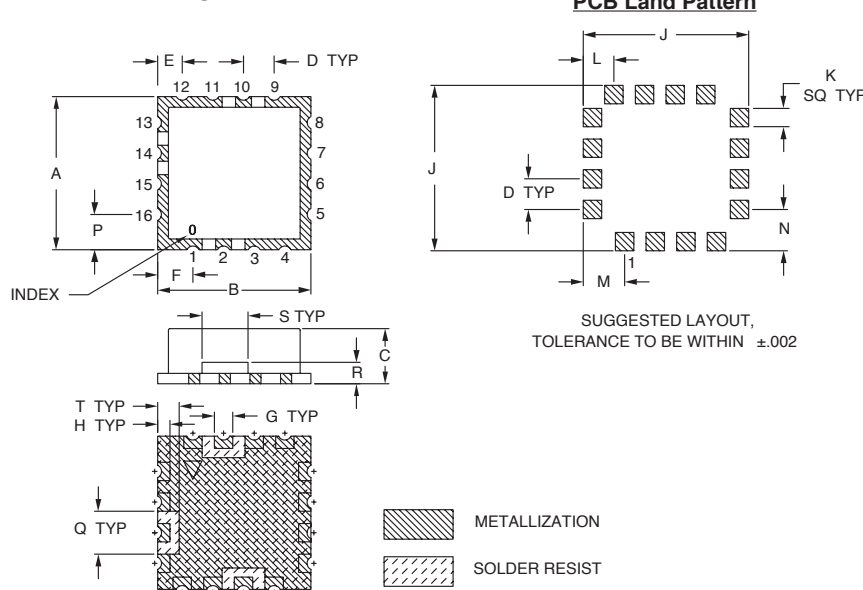
| | |
|--------|--------------------------------|
| RF OUT | 10 |
| VCC | 14 |
| V-TUNE | 2 |
| GROUND | 1,3,4,5,6,7,8,9,11,12,13,15,16 |

Maximum Ratings

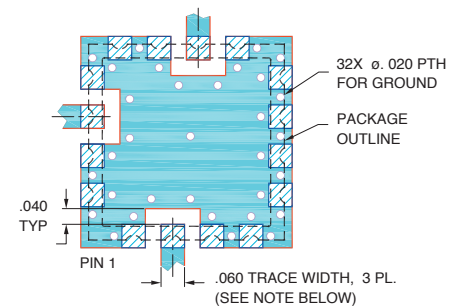
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 7V |
| Absolute Max. Tuning Voltage (Vtune) | 12V |
| All specifications | 50 ohm system |

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

Outline Drawing



Demo Board MCL P/N: TB-10 Suggested PCB Layout (PL-012)



- NOTES:**
1. TRACE WIDTH IS SHOWN FOR RF4 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

Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J | K | L | M | N | P | Q | R | S | T | wt. |
|-------|-------|------|------|------|------|------|------|-------|------|------|------|------|------|------|------|------|------|-------|
| .500 | .500 | .180 | .100 | .080 | .115 | .060 | .040 | .540 | .060 | .100 | .135 | .135 | .115 | .140 | .070 | .150 | .070 | grams |
| 12.70 | 12.70 | 4.57 | 2.54 | 2.03 | 2.92 | 1.52 | 1.02 | 13.72 | 1.52 | 2.54 | 3.43 | 3.43 | 2.92 | 3.56 | 1.78 | 3.81 | 1.78 | 1.0 |



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For detailed performance specs & shopping online see web site

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.

REV. OR
M106250
EDR-8095
ROS-2150-1019+
RAV
090820
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Performance Data & Curves*

ROS-2150-1019+

| V TUNE | TUNE SENS (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | | Icc (mA) | HARMONICS (dBc) | | | FREQ. PUSH (MHz/V) | FREQ. PULL (MHz) | PHASE NOISE (dBc/Hz) at offsets | | | | FREQ OFFSET (KHz) | PHASE NOISE at 2075 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|--------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| | | 0.00 | 28.40 | 1959.6 | 1948.1 | 1943.6 | 5.82 | | 5.55 | 5.25 | 30.20 | | | -37.8 | -32.4 | -46.2 | 0.43 | | |
| 1.00 | 22.93 | 1985.2 | 1974.5 | 1970.1 | 5.75 | 5.58 | 5.33 | 30.50 | -36.7 | -31.4 | -46.0 | 0.42 | 5.34 | -76.6 | -101.8 | -123.3 | -143.5 | 2.0 | -83.47 |
| 1.50 | 22.42 | 1996.6 | 1986.0 | 1981.6 | 5.71 | 5.57 | 5.37 | 30.62 | -36.7 | -30.9 | -47.0 | 0.38 | 4.99 | -77.8 | -102.2 | -122.8 | -143.6 | 3.5 | -89.86 |
| 2.00 | 22.61 | 2007.8 | 1997.2 | 1992.7 | 5.65 | 5.55 | 5.38 | 30.74 | -36.2 | -31.0 | -46.1 | 0.33 | 3.24 | -76.5 | -102.1 | -123.2 | -143.1 | 6.0 | -95.55 |
| 2.50 | 23.49 | 2019.3 | 2008.5 | 2003.9 | 5.59 | 5.50 | 5.34 | 30.84 | -35.3 | -30.4 | -45.4 | 0.30 | 1.24 | -75.9 | -102.7 | -122.8 | -142.7 | 8.5 | -99.62 |
| 3.00 | 24.66 | 2031.3 | 2020.2 | 2015.5 | 5.50 | 5.44 | 5.25 | 30.94 | -35.5 | -30.2 | -45.0 | 0.27 | 3.86 | -74.5 | -101.0 | -122.7 | -142.8 | 10.0 | -100.41 |
| 3.50 | 25.75 | 2043.9 | 2032.6 | 2027.6 | 5.41 | 5.36 | 5.18 | 31.03 | -35.9 | -29.7 | -45.9 | 0.24 | 5.89 | -73.5 | -101.2 | -122.5 | -143.0 | 20.8 | -107.79 |
| 4.00 | 26.54 | 2057.0 | 2045.4 | 2040.4 | 5.31 | 5.29 | 5.15 | 31.13 | -35.7 | -30.4 | -45.4 | 0.19 | 6.14 | -74.4 | -101.2 | -122.7 | -142.7 | 35.5 | -113.14 |
| 4.50 | 26.33 | 2070.2 | 2058.7 | 2053.5 | 5.23 | 5.20 | 5.12 | 31.23 | -35.4 | -29.4 | -44.8 | 0.10 | 4.77 | -74.1 | -100.3 | -122.2 | -142.6 | 60.7 | -117.73 |
| 5.00 | 25.65 | 2083.3 | 2071.9 | 2066.6 | 5.14 | 5.13 | 5.07 | 31.34 | -34.9 | -29.3 | -44.9 | 0.02 | 1.86 | -74.1 | -100.3 | -122.3 | -142.1 | 86.7 | -120.66 |
| 5.50 | 24.74 | 2096.2 | 2084.7 | 2079.4 | 5.03 | 5.04 | 4.98 | 31.44 | -35.1 | -28.9 | -45.7 | 0.13 | 3.99 | -74.3 | -100.7 | -122.0 | -141.9 | 100.0 | -122.14 |
| 6.00 | 23.46 | 2108.6 | 2097.1 | 2091.7 | 4.93 | 4.95 | 4.90 | 31.53 | -35.2 | -28.4 | -44.6 | 0.21 | 6.02 | -76.9 | -99.6 | -121.5 | -141.5 | 148.1 | -125.30 |
| 6.50 | 22.13 | 2120.4 | 2108.8 | 2103.4 | 4.84 | 4.87 | 4.86 | 31.61 | -34.5 | -29.0 | -44.4 | 0.26 | 6.89 | -75.4 | -99.9 | -121.2 | -141.6 | 177.0 | -127.06 |
| 7.00 | 20.92 | 2131.5 | 2119.9 | 2114.5 | 4.73 | 4.80 | 4.83 | 31.68 | -34.5 | -28.5 | -44.1 | 0.28 | 6.33 | -76.9 | -100.6 | -121.2 | -141.9 | 211.6 | -128.33 |
| 7.50 | 19.60 | 2142.0 | 2130.3 | 2124.9 | 4.65 | 4.70 | 4.73 | 31.75 | -34.2 | -28.2 | -44.3 | 0.28 | 4.33 | -75.3 | -100.0 | -121.4 | -141.2 | 302.4 | -131.31 |
| 8.00 | 18.28 | 2151.8 | 2140.1 | 2134.6 | 4.57 | 4.62 | 4.63 | 31.83 | -34.0 | -28.4 | -43.7 | 0.27 | 1.46 | -73.2 | -100.7 | -121.0 | -141.3 | 361.5 | -133.34 |
| 8.50 | 17.11 | 2160.9 | 2149.3 | 2143.7 | 4.52 | 4.56 | 4.58 | 31.90 | -34.2 | -28.1 | -43.6 | 0.25 | 3.22 | -73.8 | -99.4 | -121.4 | -141.7 | 507.5 | -136.44 |
| 9.00 | 16.09 | 2169.5 | 2157.8 | 2152.2 | 4.47 | 4.50 | 4.51 | 31.96 | -34.4 | -28.1 | -44.0 | 0.24 | 5.57 | -74.8 | -100.3 | -121.1 | -141.4 | 606.7 | -137.97 |
| 9.50 | 15.22 | 2177.5 | 2165.9 | 2160.2 | 4.41 | 4.46 | 4.47 | 32.02 | -34.4 | -28.3 | -43.7 | 0.24 | 6.91 | -74.0 | -98.6 | -120.9 | -140.8 | 851.6 | -140.72 |
| 10.00 | 14.36 | 2185.1 | 2173.5 | 2167.8 | 4.35 | 4.42 | 4.41 | 32.07 | -34.1 | -28.8 | -43.8 | 0.24 | 7.24 | -74.2 | -99.3 | -121.1 | -140.8 | 1000.0 | -142.01 |

*at 25°C unless mentioned otherwise

