

Voltage Controlled Oscillator

ROS-2432-119+

Wide Band 1662 to 2432 MHz

Features

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

Applications

- Wireless communications
- Cable TV headend



CASE STYLE: CK605

PRICE: \$24.95 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) | SENSI- TIVITY (MHz/V) | PORT CAP (pF) | 3 dB MODULATION BANDWIDTH (MHz) | | Typ. | Typ. | | | Max. | Typ. | Typ. | Vcc (volts) | Current (mA) |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| ROS-2432-119+ | 1662 | 2432 | +5.5 | -73 | -100 | -123 | -143 | 1 | 28 | 23 - 49 | 40 | 230 | -90 | -18 | - | 6.5 | 1 | 10 | 30 | | | |

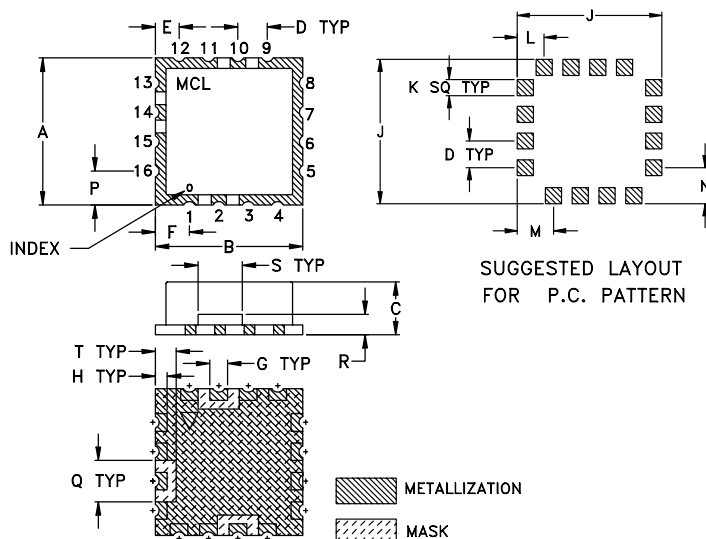
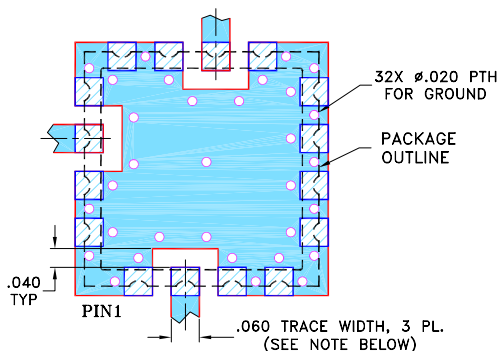
Pin Connections

| | |
|--------|--------------------------------|
| 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) | 12V |
| Absolute Max. Tuning Voltage (Vtune) | 30V |
| All specifications | 50 ohm system |

Outline Drawing

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

- NOTES:**
1. TRACE WIDTH IS SHOWN FOR FR4 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 (inches)

| 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 |

Performance Data & Curves*

ROS-2432-119+

| 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 2047 MHz (dBc/Hz) |
|-----------|-------------------------|--------------------|--------|--------|-----------------------|-------|-------|-------------|-----------------|-------|-------|--------------------------|------------------------|------------------------------------|--------|--------|--------|-------------------------|---|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 59.55 | 1519.7 | 1499.3 | 1480.6 | 7.83 | 7.44 | 6.93 | 24.05 | -12.7 | -22.0 | -31.8 | 1.25 | 4.18 | -71.8 | -99.0 | -120.9 | -140.8 | 1.0 | -72.29 |
| 1.00 | 45.71 | 1576.2 | 1559.0 | 1544.1 | 7.54 | 7.12 | 6.64 | 23.92 | -13.9 | -21.3 | -33.6 | 1.46 | 7.75 | -76.0 | -101.1 | -121.7 | -141.5 | 2.0 | -81.07 |
| 2.00 | 42.37 | 1620.4 | 1604.8 | 1591.2 | 7.28 | 6.94 | 6.49 | 23.83 | -14.6 | -21.1 | -35.4 | 1.33 | 4.93 | -76.5 | -101.6 | -122.4 | -142.5 | 3.5 | -87.58 |
| 3.00 | 41.06 | 1662.1 | 1647.2 | 1634.0 | 7.03 | 6.66 | 6.22 | 23.72 | -15.8 | -21.0 | -36.9 | 1.25 | 5.86 | -77.7 | -101.7 | -122.5 | -142.3 | 6.0 | -93.65 |
| 4.00 | 40.58 | 1702.3 | 1688.0 | 1675.4 | 6.90 | 6.52 | 6.07 | 23.64 | -17.1 | -20.6 | -38.8 | 1.14 | 4.65 | -76.7 | -101.8 | -122.7 | -142.6 | 8.5 | -98.84 |
| 5.00 | 41.66 | 1742.6 | 1728.4 | 1716.1 | 6.68 | 6.35 | 5.94 | 23.52 | -18.5 | -20.7 | -40.4 | 1.05 | 6.08 | -78.6 | -101.3 | -122.6 | -142.5 | 10.0 | -99.66 |
| 6.00 | 44.11 | 1783.0 | 1769.4 | 1757.6 | 6.50 | 6.19 | 5.74 | 23.44 | -19.7 | -21.4 | -43.7 | 0.93 | 4.40 | -76.6 | -101.1 | -122.1 | -142.0 | 20.8 | -107.25 |
| 8.00 | 47.36 | 1873.3 | 1858.6 | 1846.1 | 6.23 | 5.81 | 5.28 | 23.35 | -21.5 | -24.5 | -49.3 | 1.04 | 5.80 | -76.0 | -101.2 | -121.7 | -142.0 | 35.5 | -112.84 |
| 10.00 | 49.32 | 1969.6 | 1954.6 | 1941.9 | 6.13 | 5.64 | 5.05 | 23.36 | -22.9 | -26.8 | -45.6 | 1.12 | 7.16 | -74.1 | -100.8 | -122.0 | -142.2 | 60.7 | -117.65 |
| 12.00 | 47.11 | 2066.7 | 2052.8 | 2041.0 | 5.96 | 5.53 | 4.93 | 23.36 | -20.5 | -29.3 | -48.2 | 0.65 | 6.84 | -71.7 | -99.3 | -122.5 | -143.3 | 86.7 | -121.61 |
| 14.00 | 41.96 | 2158.6 | 2145.7 | 2134.6 | 5.96 | 5.53 | 4.95 | 23.36 | -17.3 | -32.3 | -57.8 | 0.17 | 5.11 | -69.9 | -99.5 | -123.2 | -143.8 | 100.0 | -122.79 |
| 16.00 | 36.31 | 2240.0 | 2227.7 | 2217.0 | 5.92 | 5.54 | 5.02 | 23.35 | -15.4 | -34.8 | -55.0 | 0.04 | 4.85 | -70.8 | -98.8 | -122.3 | -143.5 | 148.1 | -126.15 |
| 18.00 | 31.05 | 2310.7 | 2298.5 | 2287.8 | 5.78 | 5.48 | 5.00 | 23.34 | -14.2 | -36.8 | -51.6 | 0.15 | 5.88 | -70.9 | -98.7 | -122.7 | -144.0 | 177.0 | -127.53 |
| 20.00 | 26.99 | 2372.0 | 2359.8 | 2348.8 | 5.55 | 5.25 | 4.93 | 23.32 | -13.5 | -38.3 | -51.3 | 0.35 | 6.24 | -72.3 | -98.5 | -122.7 | -143.8 | 211.6 | -129.53 |
| 22.00 | 23.26 | 2425.1 | 2412.9 | 2401.7 | 5.25 | 5.01 | 4.74 | 23.30 | -13.0 | -39.0 | -52.3 | 0.43 | 2.40 | -70.8 | -99.2 | -122.8 | -143.9 | 302.4 | -132.66 |
| 24.00 | 20.35 | 2471.4 | 2459.1 | 2447.8 | 5.12 | 4.92 | 4.60 | 23.28 | -12.9 | -38.4 | -53.1 | 0.44 | 5.67 | -71.8 | -98.5 | -122.6 | -143.5 | 361.5 | -134.14 |
| 25.00 | 18.48 | 2492.3 | 2479.6 | 2468.1 | 5.11 | 4.88 | 4.63 | 23.25 | -12.8 | -39.0 | -53.0 | 0.41 | 3.47 | -71.6 | -99.3 | -122.5 | -143.3 | 507.5 | -137.18 |
| 26.00 | 16.58 | 2511.4 | 2498.8 | 2487.0 | 5.13 | 4.86 | 4.58 | 23.23 | -12.9 | -39.1 | -55.0 | 0.34 | 3.45 | -72.1 | -99.1 | -123.1 | -143.6 | 600.0 | -138.66 |
| 27.00 | 15.10 | 2529.4 | 2516.2 | 2504.4 | 5.09 | 4.88 | 4.61 | 23.21 | -12.9 | -38.9 | -54.8 | 0.23 | 5.72 | -73.2 | -100.1 | -124.0 | -144.2 | 851.6 | -141.83 |
| 28.00 | 14.17 | 2545.7 | 2532.6 | 2520.3 | 5.13 | 4.84 | 4.58 | 23.18 | -12.8 | -39.4 | -54.8 | 0.12 | 6.41 | -73.5 | -99.7 | -123.5 | -142.9 | 1000.0 | -143.24 |

*at 25°C unless mentioned otherwise

