

Voltage Controlled Oscillator

ROS-2252+

5V Tuning for PLL IC's 2182 to 2245 MHz

Features

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

Applications

- Wireless communications
- Wireless broadband access



CASE STYLE: CK605
PRICE: \$19.95 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. | Typ. | | | Typ. | Typ. |
| ROS-2252+ | 2182 | 2245 | +3 | -84 | -107 | -127 | -146 | 0.5 | 5 | 21 - 26 | 16 | 20 | -90 | -30 | -20 | 0.5 | 1 | 4.75 | 35 |

Pin Connections

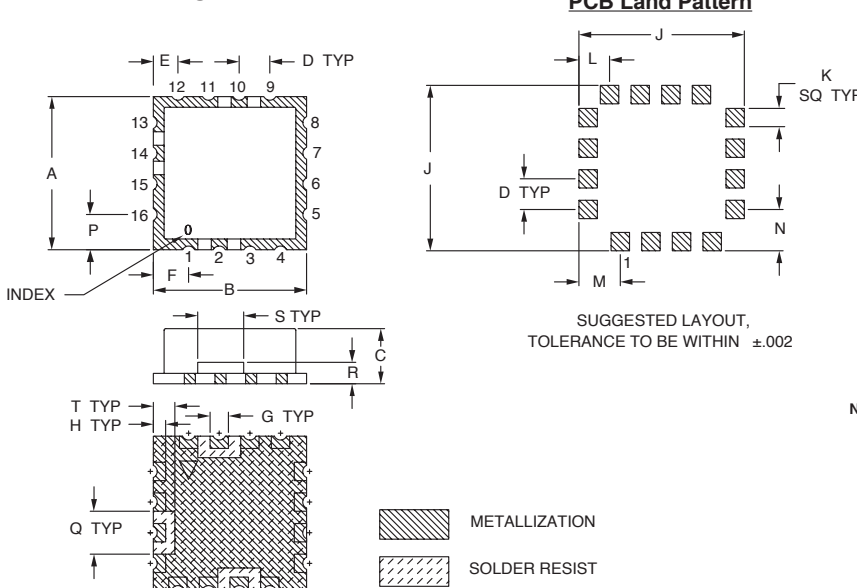
| | |
|--------|--------------------------------|
| RF OUT | 10 |
| VCC | 14 |
| V-TUNE | 2 |
| GROUND | 1,3,4,5,6,7,8,9,11,12,13,15,16 |

Maximum Ratings

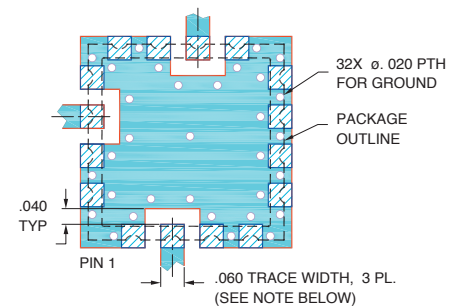
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|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | 6V |
| Absolute Max. Tuning Voltage (Vtune) | 7V |
| All specifications | 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 |



ISO 9001 ISO 14001 AS 9100 CERTIFIED

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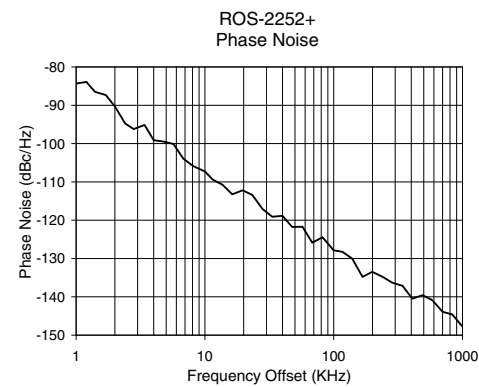
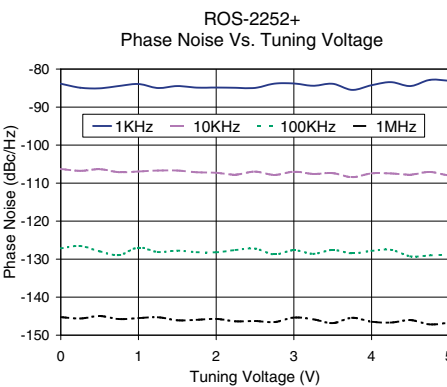
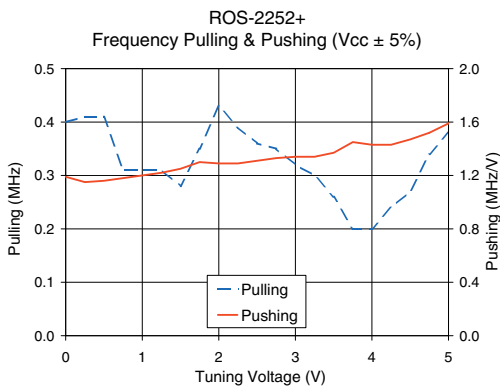
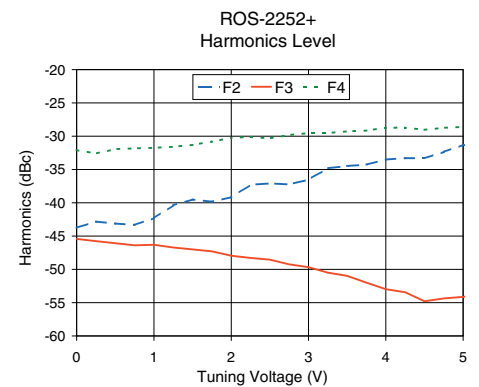
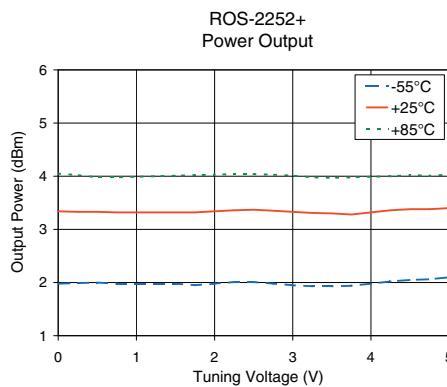
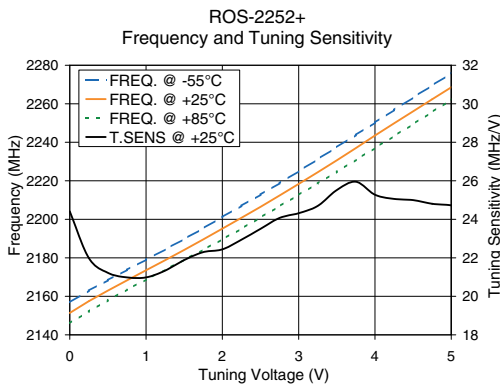
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Performance Data & Curves*

ROS-2252+

| 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 2215 MHz (dBc/Hz) |
|--------|-------------------|-----------------|--------|--------|--------------------|-------|-------|----------|-----------------|-------|-------|--------------------|------------------|---------------------------------|--------|--------|--------|-------------------|----------------------------------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C | | F2 | F3 | F4 | | | 1kHz | 10kHz | 100kHz | 1MHz | | |
| 0.00 | 24.41 | 2156.9 | 2151.4 | 2146.1 | 1.98 | 3.34 | 4.05 | 25.15 | -43.8 | -45.4 | -32.1 | 1.19 | 0.40 | -83.9 | -106.3 | -127.1 | -145.3 | 1.0 | -84.33 |
| 0.50 | 21.22 | 2168.4 | 2163.0 | 2157.9 | 2.00 | 3.33 | 3.98 | 25.36 | -43.1 | -46.1 | -31.9 | 1.16 | 0.41 | -85.1 | -106.3 | -128.0 | -145.0 | 2.0 | -90.30 |
| 0.75 | 20.98 | 2173.7 | 2168.3 | 2163.5 | 1.98 | 3.32 | 3.98 | 25.44 | -43.3 | -46.4 | -31.8 | 1.18 | 0.31 | -84.5 | -107.1 | -128.9 | -145.8 | 3.4 | -95.15 |
| 1.00 | 20.98 | 2179.0 | 2173.5 | 2168.7 | 1.98 | 3.32 | 3.99 | 25.51 | -42.3 | -46.3 | -31.7 | 1.20 | 0.31 | -83.9 | -106.9 | -126.9 | -145.5 | 5.7 | -100.10 |
| 1.25 | 21.33 | 2184.4 | 2178.8 | 2173.8 | 1.98 | 3.32 | 4.00 | 25.58 | -40.4 | -46.7 | -31.6 | 1.22 | 0.31 | -85.0 | -106.7 | -128.1 | -145.3 | 8.1 | -105.87 |
| 1.50 | 21.88 | 2189.8 | 2184.1 | 2179.0 | 1.98 | 3.32 | 4.01 | 25.65 | -39.5 | -47.0 | -31.3 | 1.25 | 0.28 | -84.5 | -106.7 | -127.8 | -146.1 | 10.0 | -107.28 |
| 1.75 | 22.30 | 2195.3 | 2189.6 | 2184.2 | 1.95 | 3.32 | 4.02 | 25.72 | -39.9 | -47.3 | -30.8 | 1.30 | 0.35 | -84.9 | -107.1 | -128.2 | -146.0 | 19.6 | -112.18 |
| 2.00 | 22.44 | 2201.2 | 2195.1 | 2189.6 | 1.98 | 3.34 | 4.03 | 25.81 | -39.2 | -48.0 | -30.2 | 1.29 | 0.43 | -84.9 | -107.3 | -128.2 | -145.7 | 33.3 | -119.10 |
| 2.25 | 22.94 | 2207.0 | 2200.8 | 2195.1 | 2.01 | 3.36 | 4.04 | 25.90 | -37.3 | -48.3 | -30.1 | 1.29 | 0.39 | -84.9 | -107.8 | -127.6 | -146.4 | 57.2 | -121.70 |
| 2.50 | 23.51 | 2212.8 | 2206.5 | 2201.0 | 2.01 | 3.37 | 4.04 | 25.99 | -37.1 | -48.5 | -30.3 | 1.31 | 0.36 | -85.0 | -107.0 | -127.2 | -146.3 | 81.8 | -124.44 |
| 2.75 | 24.07 | 2218.8 | 2212.4 | 2206.8 | 1.98 | 3.35 | 4.03 | 26.08 | -37.3 | -49.3 | -29.8 | 1.33 | 0.35 | -83.8 | -107.8 | -128.8 | -146.6 | 100.0 | -127.87 |
| 3.00 | 24.32 | 2225.0 | 2218.4 | 2212.7 | 1.95 | 3.33 | 4.01 | 26.17 | -36.5 | -49.7 | -29.5 | 1.34 | 0.32 | -83.8 | -107.0 | -127.6 | -145.4 | 139.3 | -130.02 |
| 3.25 | 24.70 | 2231.2 | 2224.5 | 2218.6 | 1.93 | 3.31 | 3.98 | 26.27 | -34.8 | -50.5 | -29.5 | 1.34 | 0.30 | -84.4 | -107.6 | -128.6 | -145.8 | 167.3 | -134.80 |
| 3.50 | 25.52 | 2237.5 | 2230.6 | 2224.7 | 1.93 | 3.30 | 3.97 | 26.35 | -34.5 | -51.0 | -29.3 | 1.37 | 0.26 | -83.9 | -107.4 | -127.6 | -146.8 | 199.2 | -133.46 |
| 3.75 | 25.95 | 2243.8 | 2237.0 | 2230.9 | 1.94 | 3.28 | 3.98 | 26.43 | -34.3 | -52.0 | -29.2 | 1.45 | 0.20 | -85.5 | -108.4 | -128.5 | -145.4 | 284.8 | -136.30 |
| 4.00 | 25.28 | 2250.2 | 2243.5 | 2237.0 | 1.98 | 3.32 | 3.99 | 26.56 | -33.5 | -53.0 | -28.7 | 1.43 | 0.20 | -84.2 | -107.4 | -127.8 | -146.5 | 342.1 | -137.11 |
| 4.25 | 25.06 | 2256.8 | 2249.8 | 2243.2 | 2.02 | 3.36 | 4.00 | 26.69 | -33.3 | -53.4 | -28.7 | 1.43 | 0.24 | -83.4 | -107.5 | -127.5 | -146.7 | 489.1 | -139.56 |
| 4.50 | 25.00 | 2263.2 | 2256.1 | 2249.4 | 2.05 | 3.38 | 4.02 | 26.81 | -33.3 | -54.8 | -29.0 | 1.47 | 0.27 | -84.5 | -107.8 | -129.3 | -146.0 | 582.3 | -140.87 |
| 4.75 | 24.80 | 2269.5 | 2262.3 | 2255.7 | 2.06 | 3.38 | 4.01 | 26.92 | -32.4 | -54.4 | -28.7 | 1.52 | 0.34 | -82.8 | -107.1 | -129.0 | -147.2 | 832.6 | -144.60 |
| 5.00 | 24.72 | 2275.8 | 2268.5 | 2262.0 | 2.10 | 3.40 | 4.03 | 27.03 | -31.3 | -54.1 | -28.6 | 1.59 | 0.38 | -83.1 | -107.9 | -128.9 | -146.7 | 1000.0 | -147.78 |

*at 25°C unless mentioned otherwise



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