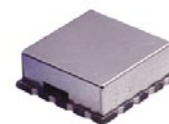


Surface Mount Voltage Controlled Oscillator

ROS-1000PV+ ROS-1000PV

5V Tuning for PLL IC's 900 to 1000 MHz



Features

- low phase noise, -144 dBc/Hz at 1 MHz, typ.
- linear tuning, 27-38 MHz/V typ.
- aqueous washable

Applications

- cellular
- instrumentation
- fast tuning
- PLL circuitry

CASE STYLE: CK605
PRICE: \$19.95 ea. QTY (5-49)

**+ 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.

Electrical Specifications

| FREQUENCY (MHz) | | POWER OUTPUT (dBm) | TUNING VOLTAGE (V) | | PHASE NOISE (dBc/Hz) SSB at offset frequencies: Typ. | | | | PULLING pk-pk @ 12 dB (MHz) | PUSHING (MHz/V) | TUNING SENSITIVITY (MHz/V) | HARMONICS (dBc) | | 3 dB MODULATION BANDWIDTH (MHz) | DC OPERATING POWER | |
|-----------------|------|--------------------|--------------------|------|--|--------|---------|-------|-----------------------------|-----------------|----------------------------|-----------------|------|---------------------------------|--------------------|-------------------|
| Min. | Max. | Typ. | Min. | Max. | 1 kHz | 10 kHz | 100 kHz | 1 MHz | Typ. | Typ. | Typ. | Typ. | Max. | Typ. | Voltage (V) | Current (mA) Max. |
| 900 | 1000 | 6 | 0.5 | 5.0 | -80 | -104 | -124 | -144 | 2.0 | 0.7 | 27-38 | -33 | -20 | 1.0 | 5 | 22 |

Pin Connections

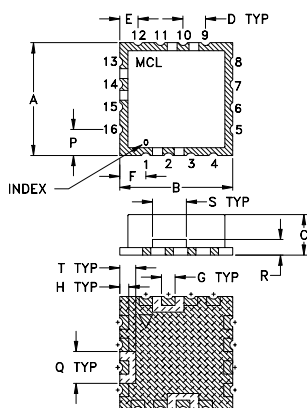
| | |
|--------|--------------------------------|
| RF OUT | 10 |
| VCC | 14 |
| V-TUNE | 2 |
| GROUND | 1,3,4,5,6,7,8,9,11,12,13,15,16 |

Maximum Ratings

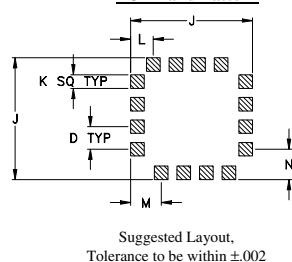
| | |
|--------------------------------------|----------------|
| Operating Temperature | -55°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Absolute Max. Supply Voltage (Vcc) | +6V |
| Absolute Max. Tuning Voltage (Vtune) | +6V |

all specifications: 50 ohm system

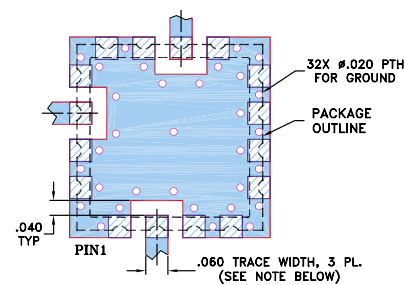
Outline Drawing



PCB Land Pattern



Demo Board MCL PIN: 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 (inch/mm)

| | | | | | | | | | |
|-------|-------|------|------|------|------|------|------|-------|------|
| A | B | C | D | E | F | G | H | J | K |
| .500 | .500 | .180 | .100 | .080 | .115 | .060 | .040 | .540 | .060 |
| 12.70 | 12.70 | 4.57 | 2.54 | 2.03 | 2.92 | 1.52 | 1.02 | 13.72 | 1.52 |
| L | M | N | P | Q | R | S | T | wt. | |
| .100 | .135 | .135 | .115 | .140 | .070 | .150 | .070 | grams | |
| 1.50 | 3.43 | 3.43 | 2.92 | 3.56 | 1.78 | 3.81 | 1.78 | 1.0 | |



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

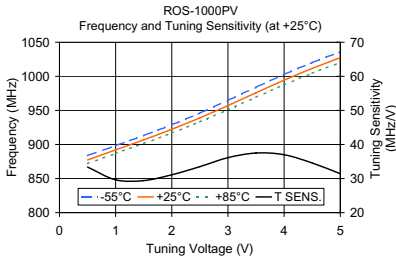
Mini-Circuits ISO 9001 & ISO 14001 Certified



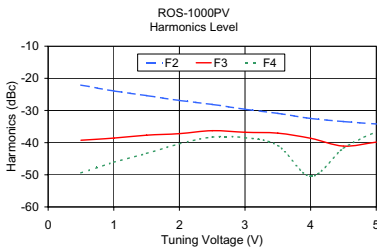
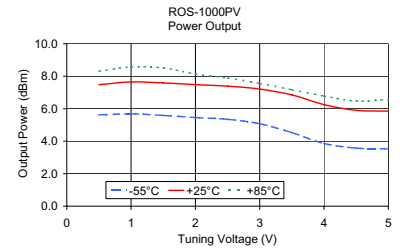
REV. B
M98898
ED-6448A/1
ROS-1000PV
MM/TD/CP/AM
061027
Page 1 of 2

Performance Data & Curves

ROS-1000PV+ ROS-1000PV



| V TUNE | TUNING SENS. (MHz/V) | FREQUENCY (MHz) | | | POWER OUTPUT (dBm) | | |
|--------|----------------------|-----------------|---------|---------|--------------------|-------|-------|
| | | -55°C | +25°C | +85°C | -55°C | +25°C | +85°C |
| 0.50 | 33.38 | 883.62 | 877.27 | 871.87 | 5.62 | 7.48 | 8.31 |
| 1.00 | 29.63 | 898.34 | 892.08 | 886.86 | 5.69 | 7.65 | 8.57 |
| 1.50 | 29.41 | 913.14 | 906.78 | 901.47 | 5.59 | 7.59 | 8.51 |
| 2.00 | 31.11 | 928.99 | 922.34 | 916.79 | 5.46 | 7.48 | 8.14 |
| 2.50 | 33.50 | 946.22 | 939.08 | 933.18 | 5.35 | 7.39 | 7.89 |
| 3.00 | 36.13 | 964.78 | 957.15 | 950.93 | 5.08 | 7.21 | 7.56 |
| 3.50 | 37.49 | 983.97 | 975.89 | 969.35 | 4.53 | 6.85 | 7.17 |
| 4.00 | 36.99 | 1002.83 | 994.39 | 987.52 | 3.86 | 6.25 | 6.78 |
| 4.50 | 34.57 | 1020.29 | 1011.67 | 1004.57 | 3.58 | 5.90 | 6.47 |
| 5.00 | 31.42 | 1036.01 | 1027.38 | 1020.23 | 3.53 | 5.85 | 6.57 |



| V TUNE | HARMONICS (dBc) | | | FREQ. PUSHING (MHz/V) |
|--------|-----------------|--------|--------|-----------------------|
| | F2 | F3 | F4 | |
| 0.50 | -22.09 | -39.25 | -49.42 | 0.29 |
| 1.00 | -23.91 | -38.58 | -46.08 | 0.25 |
| 1.50 | -25.35 | -37.69 | -43.35 | 0.21 |
| 2.00 | -26.87 | -37.20 | -40.37 | 0.21 |
| 2.50 | -28.10 | -36.27 | -38.27 | 0.36 |
| 3.00 | -29.62 | -36.79 | -38.45 | 0.77 |
| 3.50 | -30.89 | -37.05 | -40.89 | 1.21 |
| 4.00 | -32.47 | -38.64 | -50.47 | 1.39 |
| 4.50 | -33.42 | -41.08 | -41.75 | 1.31 |
| 5.00 | -34.18 | -39.85 | -36.51 | 1.17 |

