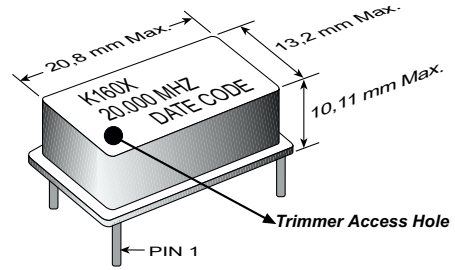


# K1601 & K1602 Series

14 pin DIP, 5.0 Volt, Sinewave, TCXO



- ♦ **Applications:** Phase Locked Loops  
Clocking "Sync" to NTSC Video Standards;  
Reference Signal; Signal Tracking
- ♦ 16.0 to 30.0 MHz Frequency Range
- ♦ Manual Frequency Adjusted
- ♦ ±1ppm Stability; 0°C to 55°C Op. Temperature
- ♦ ±2ppm Stability; -40°C to 85°C Op. Temperature
- ♦ "Clipped" Sine Wave Output
- ♦ Non Hermetic Package



## ELECTRICAL SPECIFICATIONS

| Model                                 | K1601  | K1602          |
|---------------------------------------|--|----------------|
| Frequency Range (MHz)                 | 16.0 to 30   |                |
| Input Current (mA)                    | < 2  |                |
| Frequency Control Function            | (For Custom Deviation Range, Vc Range, etc. - Consult Factory) |                |
| Voltage Control                       | Included   |                |
| Minimum Deviation (ppm)               | ±28  |                |
| Minimum Deviation Sensitivity (ppm/V) | +14  |                |
| Linearity (%)                         | < 10   |                |
| Modulation Bandwidth (±3dB)           | > 20KHz  |                |
| Nominal Control Voltage (V)           | 2.5  |                |
| Control Voltage Range (V)             | 0.5 to 4.5   |                |
| Manual Adjusted (ppm)                 | ±5 min.  |                |
| Transfer Function                     | Positive   |                |
| Input Impedance                       | > 50KΩ @ 10KHz   |                |
| Frequency Stability (ppm)             |  |                |
| Overall                               | Inclusive of Calibration, Temperature, Voltage, Load and Aging |                |
| 25°C Calibration                      | ±1.5   |                |
| Aging 10 Years (ppm)                  | ±2.0   |                |
| Over Operating Temperature            | ±1.0   | ±2.0           |
| Temperature Range (°C)                |  |                |
| Operating                             | 0°C to +55°C   | -40°C to +85°C |
| Storage                               | -40°C to +85°C   |                |
| Supply Voltage (V)                    | +5.0V ±5%  |                |
| Output ("Clipped" Sine Wave)          | 1.0V p-p min., Clipped Sine Wave; 10KΩ/10pF                    |                |
| Start Up Time (ms)                    | <5   |                |
| SSB Phase Noise (dBC/Hz)              | 10Hz   | -70            |
| Offset from Carrier                   | 100Hz  | -95            |
|                                       | 1KHz   | -120           |
|                                       | 10KHz  | -140           |
|                                       | 100KHz   | -150           |

## PART NUMBERING GUIDE

K160X - Specify Frequency

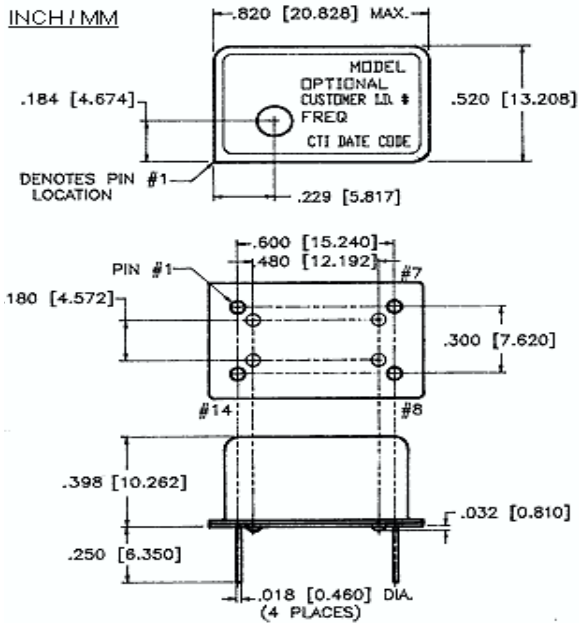
- "1" = 0°C to 55°C Operating Temp.
- "1-R" = RoHS Compliant and 0°C to 55°C Operating Temp.
- "2" = -40°C to 85°C Operating Temp.
- "2-R" = RoHS Compliant and -40°C to 85°C Operating Temp.

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Please see [www.mtronpti.com](http://www.mtronpti.com) for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

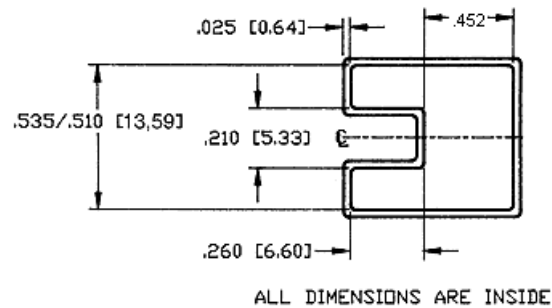
# K1601 & K1602 Series

## 14 pin DIP, 5.0 Volt, Sinewave, TCXO

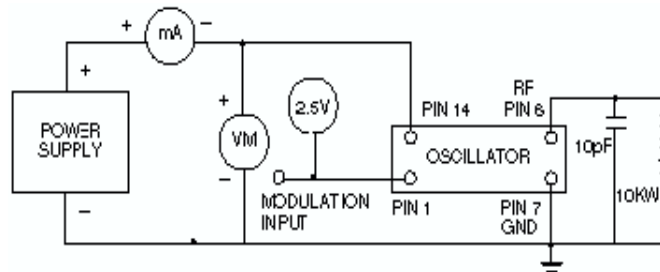


| PIN | FUNCTION          |
|-----|-------------------|
| 1   | Voltage Control   |
| 7   | Gnd/ & Case Gnd   |
| 8   | Output            |
| 14  | + V <sub>CC</sub> |

### SHIPPING TUBE CROSS SECTION



### TEST CIRCUIT DIAGRAM



### MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

| TEST METHODS            | REFERENCE PROCEDURES                 | DESCRIPTION  |
|-------------------------|--------------------------------------|--|
| Temperature Cycle       | MIL-STD-833, Mtd 1010, Cond. B       | -55°C to +125°C; Air-to-Air; 100 cycles; 10 min. dwell |
| Mechanical Shock        | MIL-STD-883, Mtd 2002, Cond. B       | 1500 g's   |
| Vibration               | MIL-STD 883, Mtd 2007, Cond. B       | 20-2000 Hz; 0.06 inch; 15g's; 3 planes                 |
| Humidity Steady State   | MIL-STD-202, Mtd 103                 | 40°C; 90%-95% R.H.; 56 days                            |
| Thermal Shock           | MIL-STD-883, Mtd 1011.7 Cond. B      | 100°C to 0°C; Water-to-Water; 15 cycles                |
| Electrostatic Discharge | MIL-STD-883, Mtd 3015 Class II       | 2 KV to 4 KV Threshold                                 |
| Solderability           | MIL-STD-883, Mtd 2022.2              | Solder dip; Meniscograph Criteria                      |
| Hermeticity             | MIL-STD-883, Mtd 1014.8, Cond. A1    | Mass spectro. 2 x 10 <sup>-8</sup> atmos. CC/sec He    |
| Resistance to Soldering | MIL-STD-202, Mtd 210A, Cond. C       | 260°C; 10 seconds: 1 inch/sec.                         |
| Lead Integrity          | MIL-STD-883, Mtd 2004.5, Cond. A, B1 | Lead tension & bend stress                             |
| Marking Permanence      | MIL-STD-883, Mtd 2015.8              | Resistance to solvents                                 |
| Life Test               | MIL-STD-883, Mtd 1005.6              | 125°C. powered. 1000 hours minimum                     |

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