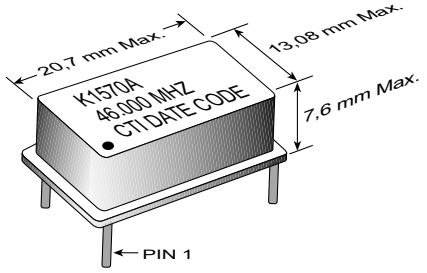
## 5V Voltage Controlled Crystal Oscillators

- **Applications:** Phase-Locked Loops (PLL's); Clock Recovery; Reference Signal Tracking; Synthesizers; Frequency Modulation/Demodulation
- 14-pin DIL Package
- 1.0 to 52.0 MHz Frequency Range
- 0.5V to 4.5V Control Voltage
- ±25ppm Stability
- -40°C to 85°C Operating Temperature




## ELECTRICAL SPECIFICATIONS

| Model | K1570A | |
|---|---|---|
| **Frequency Range (MHz)** | 1 to 52 | |
| **Input Current (mA)** | < 26 | |
| **Frequency Control Function** | (For Custom Deviation Range, Vc Range, etc. - Consult Factory) | |
| Deviation (ppm) | | |
| Minimum | ±100 | |
| Maximum | ±150 | |
| Linearity (%) | < 10 | |
| Modulation Bandwidth (±3dB) | > 20KHz | |
| Nominal Control Voltage (V) | 2.5 | |
| Control Voltage Range (V) | 0.5 to 4.5 | |
| Transfer Function | Positive | |
| Input Impedance | > 50KΩ @ 10KHz | |
| **Frequency Stability (ppm)** | | |
| Overall | Inclusive of Calibration, Temperature, Voltage, Load and Aging | |
| 0°C to +70°C | ±25 | |
| -40°C to +85°C | ±50 | |
| **Temperature Range (°C)** | | |
| Operating | -40°C to +85°C | |
| Storage | -55°C to +125°C | |
| **Supply Voltage (V)** | +5.0V ±5% | |
| **Symmetry (%) CMOS/TTL** | 40/60 | |
| **Start Up Time (ms)** | <10 | |
| **Typical SSB Phase Noise (dBC/Hz)** | 10Hz | -65 |
| **Offset from Carrier** | 100Hz | -95 |
| | 1KHz | -120 |
| | 10KHz | -140 |
| | 100KHz | -150 |

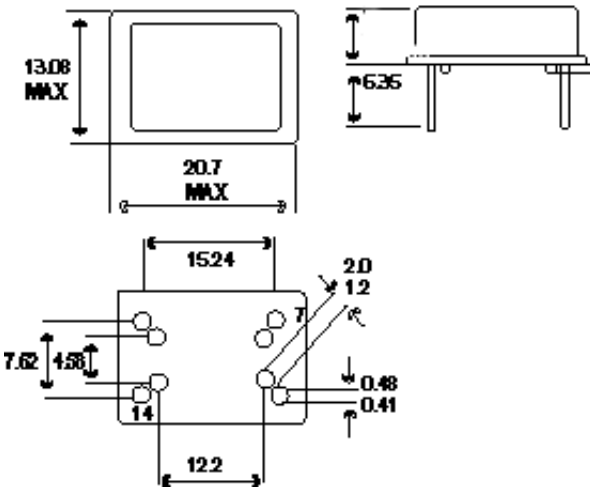
## PART NUMBERING GUIDE

**K1570A XX -** Specify Frequency

- "Blank" = 0°C to 70°C Operating Temp.
- "M" = -40°C to +85°C Operating Temp.
- "A" = ±25ppm (0°C to 70°C Op. Temp. Only
- "B" = ±50ppm

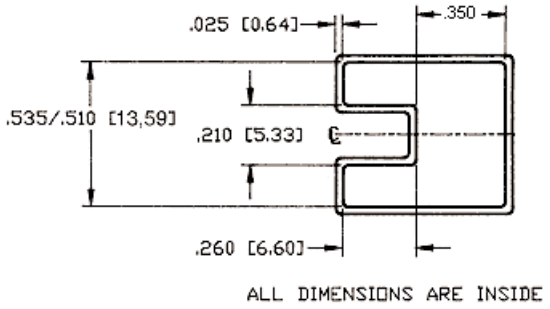
2553 N. Edgington Street, Franklin Park, IL 60131 • Phone: 847.451.1000 • Fax: 847.451.7585

**800-888-1499 or www.champtech.com**

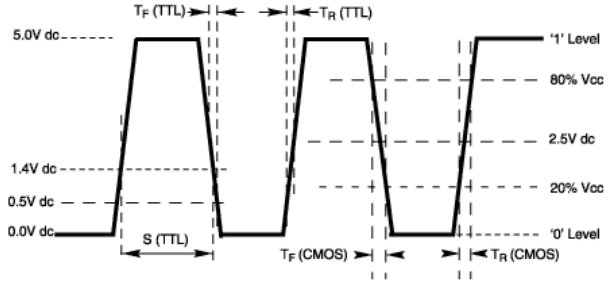



| PIN | FUNCTION |
|---|---|
| 1 | Voltage Control |
| 7 | Gnd/ & Case Gnd |
| 8 | Output |
| 14 | + $V_{CC}$ |

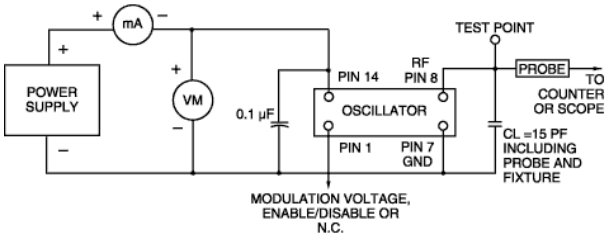
## SHIPPING TUBE CROSS SECTION




## OUTPUT WAVEFORM




## 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 10-8 atmos. CC/sec He |
| Resistance to Soldering | MIL-STD-202, Mtd 210D, 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 |