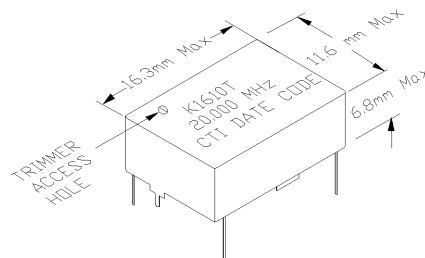


### 5V Temperature Compensated Crystal Oscillators

- ♦ **Applications:** Clocking "Sync" to NTSC Video Standards; Reference Signal; Signal Tracking
- ♦  $\pm 10$ ppm Stability
- ♦  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  Op. Temperature
- ♦ TTL/CMOS Output
- ♦ Non Hermetic Package

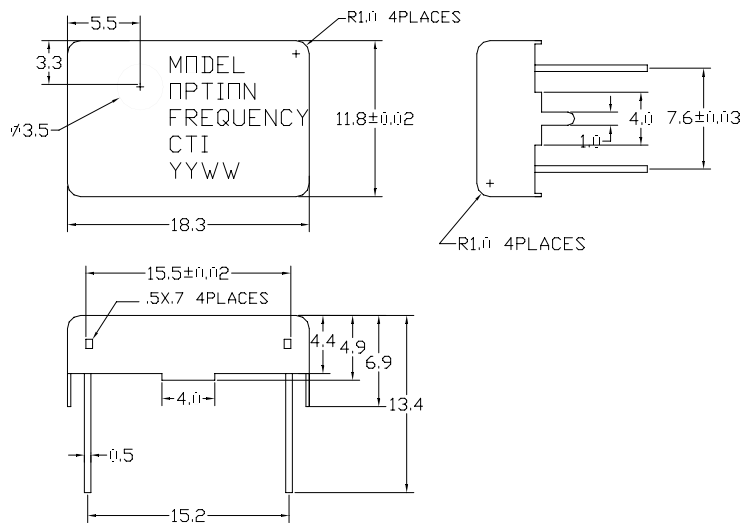


### ELECTRICAL SPECIFICATIONS

|                                   |                                                                                         |
|-----------------------------------|-----------------------------------------------------------------------------------------|
| <b>Model</b>                      | <b>K1610T</b>                                                                           |
| <b>Frequency Range (MHz)</b>      | 1 to 30                                                                                 |
| <b>Input Current (mA)</b>         | < 20                                                                                    |
| <b>Frequency Control Function</b> | (For Custom Deviation Range, Vc Range, etc. - Consult Factory)                          |
| <b>Manual Adjusted (ppm)</b>      | $\pm 5$ min.                                                                            |
| <b>Frequency Stability (ppm)</b>  |                                                                                         |
| Overall                           | $\pm 10$ ppm<br>(Inclusive of Calibration, Temperature, Voltage, Load and 10yrs. Aging) |
| 25°C Calibration                  | $\pm 1$ ppm                                                                             |
| Over Operating Temperature        | $\pm 3$ ppm                                                                             |
| Aging 1st Year                    | $\pm 1$ ppm                                                                             |
| <b>Temperature Range (°C)</b>     |                                                                                         |
| Operating                         | $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$                                          |
| Storage                           | $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$                                          |
| <b>Supply Voltage (V)</b>         | $+5.0\text{V} \pm 5\%$                                                                  |
| <b>Symmetry TTL/CMOS</b>          | 40/60                                                                                   |
| <b>"0" Level (V<sub>OL</sub>)</b> | 0.5 max.                                                                                |
| <b>"1" Level (V<sub>OH</sub>)</b> | 3.5 min.                                                                                |
| <b>Rise &amp; Fall Times (ns)</b> | 10 max.                                                                                 |
| <b>Start Up Time (ms)</b>         | <10                                                                                     |

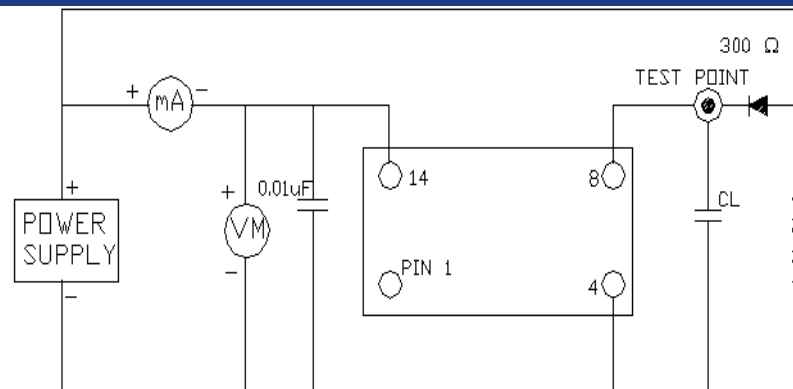
### PART NUMBERING GUIDE

**K1610T** - Specify Frequency



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

## TEST CIRCUIT DIAGRAM



CL; Total Fixture Probe Capacitance: 15pF or 50pF Max  
Diode: FD700 or Equivalent

## 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 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                     |