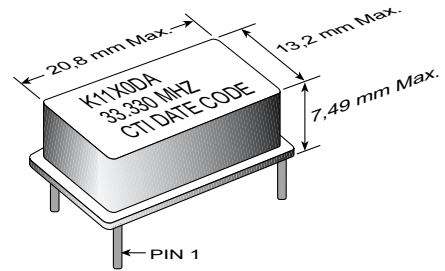


- ♦ **Applications:** Wide Area Networks (WAN's) Reference Clocking
- ♦ Superior Tolerance Performance Including up to 10 years of aging
- ♦ 2.0 to 35.0 MHz Frequency Range
- ♦  $\pm 10\text{ppm}$   $\pm 20\text{ppm}$  Stability Options
- ♦  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  Operating Temperature - K1120D
- ♦  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  Operating Temperature - K1110D
- ♦ Meets Stratum IV Requirements
- ♦ Enable/Disable Option Available

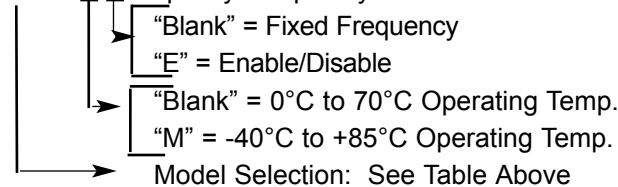


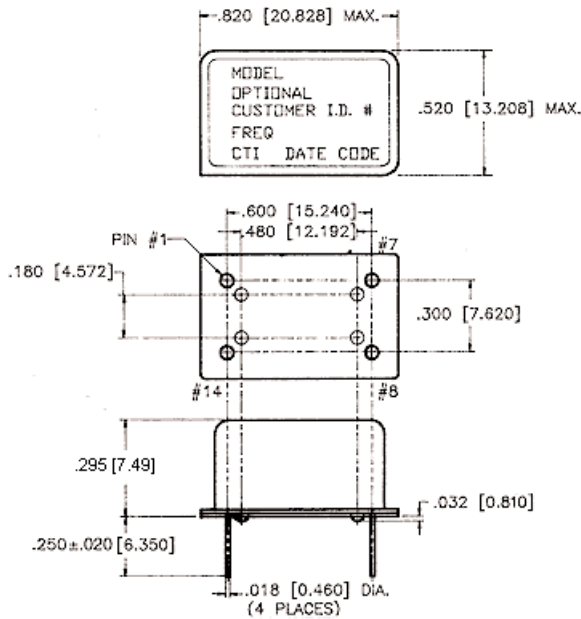
### ELECTRICAL SPECIFICATIONS

| Model   | K1110DA   | K1120DAM                                       |
|---|---|--|
| Frequency Range (MHz)                         | 2 to 35   |  |
| Input Current (mA)                            | < 30  |  |
| Frequency Stability (ppm)                     |   |  |
| Overall                                       | Inclusive of Calibration, Temperature, Voltage, Load, Aging |  |
| $0^{\circ}\text{C}$ to $70^{\circ}\text{C}$   | $\pm 10$  | -  |
| $-40^{\circ}\text{C}$ to $85^{\circ}\text{C}$ | -   | $\pm 20$                                       |
| Aging @ $50^{\circ}\text{C}$ (10 Years)       | Inclusive   | $\pm 3.0$                                      |
| Temperature Range ( $^{\circ}\text{C}$ )      |   |  |
| Operating                                     | $0^{\circ}\text{C}$ to $+70^{\circ}\text{C}$                | $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ |
| Storage                                       | $-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$              |  |
| Supply Voltage (V)                            | $+5.0\text{V} \pm 5\%$                                      |  |
| Symmetry CMOS/TTL                             | 45/55 < 16MHz; 40/60 $\geq$ 16MHz                           |  |
| "0" Level ( $V_{OL}$ )                        | 0.5 max.  |  |
| "1" Level ( $V_{OH}$ )                        | 4.5 min   |  |
| Rise Time & Fall Time (ns)                    | < 5   |  |
| Start Up Time (ms)                            | < 10  |  |

### PART NUMBERING GUIDE

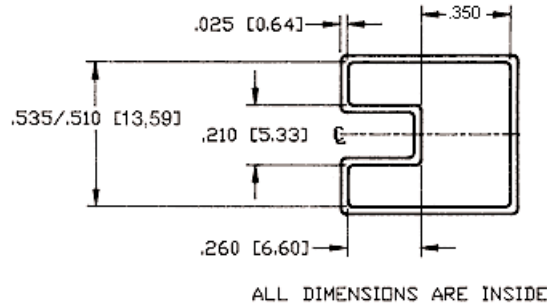
**K11X0DAX X** - Specify Frequency



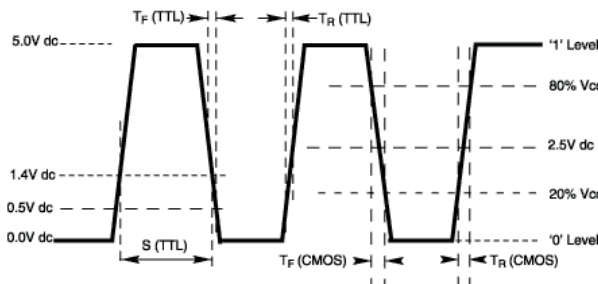


| PIN | FUNCTION              |
|-----|-----------------------|
| 1   | N/C or Enable/Disable |
| 7   | Gnd/ & Case Gnd       |
| 8   | Output                |
| 14  | + V <sub>CC</sub>     |

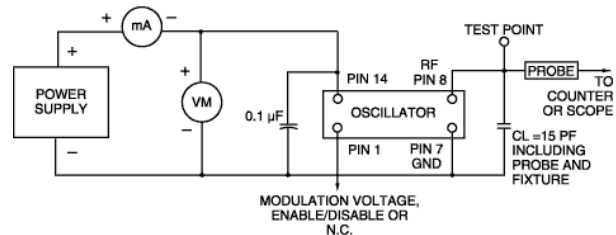
### SHIPPING TUBE CROSS SECTION



### 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-202, Mtd 213, Cond. D        | 500 g's  |
| Vibration               | MIL-STD 202, Mtd 204, Cond. B        | 10-2000 Hz; 0.06 inch; 15g; 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. A      | 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                     |