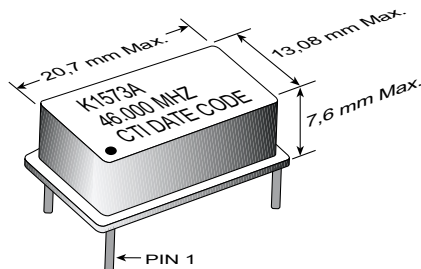


### 3.3V Voltage Controlled Crystal Oscillators

- ♦ **Applications:** Phase-Locked Loops (PLL's); Clock Recovery; Reference Signal Tracking; Synthesizers; Frequency Modulation/Demodulation
- ♦ 16-pin DIL Package
- ♦ 1.0 to 52.0 MHz Frequency Range
- ♦ 0.3V to 3.0V Control Voltage
- ♦  $\pm 25$ ppm Stability
- ♦  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  Operating Temperature



## ELECTRICAL SPECIFICATIONS

Model	K1573A	
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	$\pm 100$	
Maximum	$\pm 150$	
Linearity (%)	< 10	
Modulation Bandwidth ( $\pm 3\text{dB}$ )	> 20KHz	
Nominal Control Voltage (V)	2.5	
Control Voltage Range (V)	0.3 to 3.0	
Transfer Function	Positive	
Input Impedance	> 50K $\Omega$ @ 10KHz	
Frequency Stability (ppm)		
Overall	Inclusive of Calibration, Temperature, Voltage, Load and Aging	
0 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$	$\pm 25$	
-40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$	$\pm 50$	
Temperature Range ( $^{\circ}\text{C}$ )		
Operating	-40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$	
Storage	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$	
Supply Voltage (V)	+3.3V $\pm 5\%$	
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

**K1573A XX** - Specify Frequency

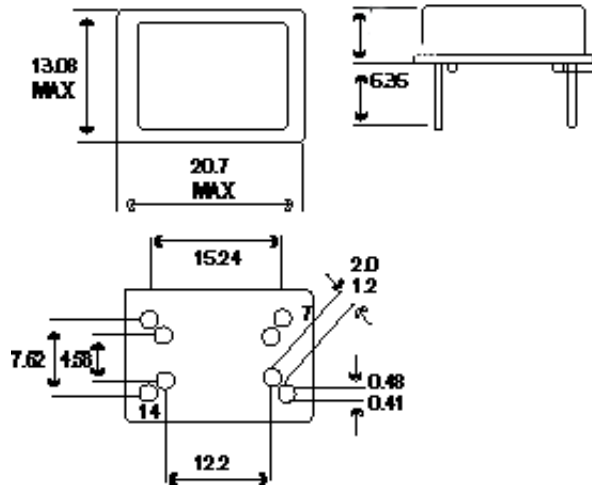
    "Blank" = 0 $^{\circ}\text{C}$  to 70 $^{\circ}\text{C}$  Operating Temp.

    "M" = -40 $^{\circ}\text{C}$  to +85 $^{\circ}\text{C}$  Operating Temp.

    "A" =  $\pm 25$ ppm (0 $^{\circ}\text{C}$  to 70 $^{\circ}\text{C}$  Op. Temp. Only)

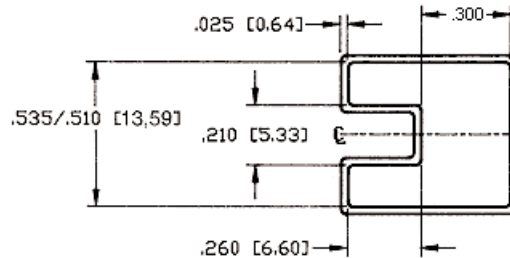
    "B" =  $\pm 50$ ppm

## 3.3V Voltage Controlled Crystal Oscillators



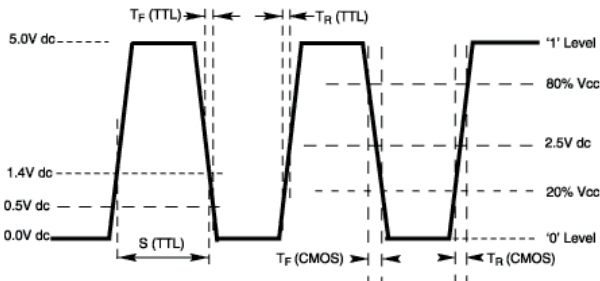
PIN	FUNCTION
1	Voltage Control
7	Gnd/ & Case Gnd
8	Output
14	+ V <sub>CC</sub>

### SHIPPING TUBE CROSS SECTION

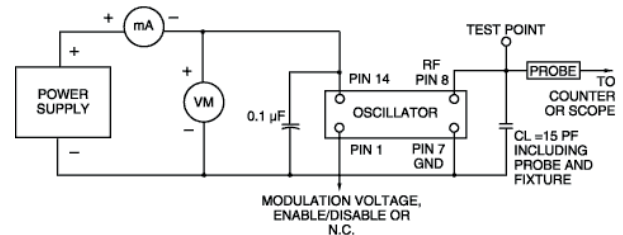


ALL DIMENSIONS ARE INSIDE

### 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 <sup>-8</sup> 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