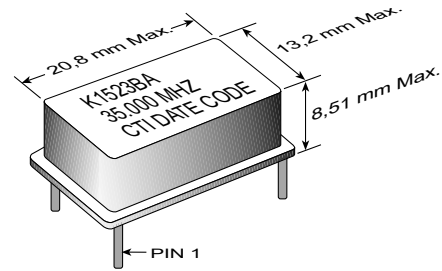


## 5V Voltage Controlled Crystal Oscillators

- ♦ **Applications:** Phase-Locked Loops (PLL's); Clock Recovery; Reference Signal Tracking; Synthesizers; Frequency Modulation/Demodulation
- ♦ 2.0 to 35.0 MHz Frequency Range
- ♦ 0.5V to 4.5V Control Voltage
- ♦ ±25ppm Stability
- ♦ Variety of Deviation Sensitivity Options
- ♦ -40°C to 85°C Operating Temperature



**Not Recommended for New Designs. Refer to K1570A & K1570AQH Series as an Alternative.**

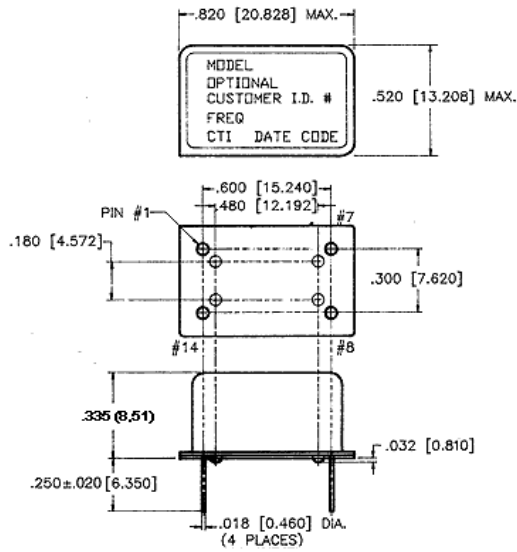
## ELECTRICAL SPECIFICATIONS

Model	K1523BA			
Frequency Range (MHz)	2 to 16	16 to 25	25 to 33	33.1 to 35
Input Current (mA)	< 17	< 19	< 26	
Frequency Control Function	(For Custom Deviation Range, Vc Range, etc. - Consult Factory)			
Deviation (ppm)				
Minimum	±100		±100	
Maximum	±150		±190	
Linearity (%)	< 5		< 10	
Modulation Bandwidth (±3dB)	> 2KHz	> 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	
-40°C to +85°C	±50		±55	
Temperature Range (°C)				
Operating	-40°C to +85°C			
Storage	-40°C to +125°C			
Supply Voltage (V)	+5.0V ±5%			
Symmetry (%) CMOS/TTL	45/55	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

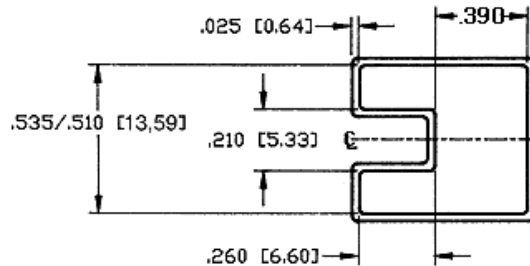
**K1523BA X** - Specify Frequency

    "Blank" = 0°C to 70°C Operating Temp.  
    "**M**" = -40°C to +85°C Operating Temp.



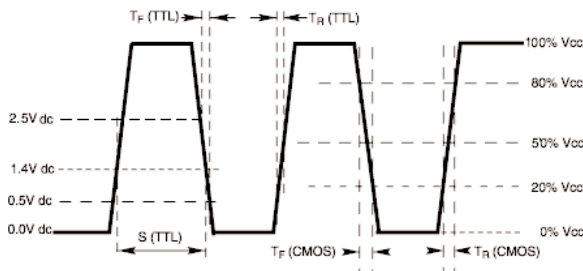
PIN	FUNCTION
1	Voltage Control
7	Gnd/ & Case Gnd
8	Output
14	+ V <sub>CC</sub>

#### SHIPPING TUBE CROSS SECTION

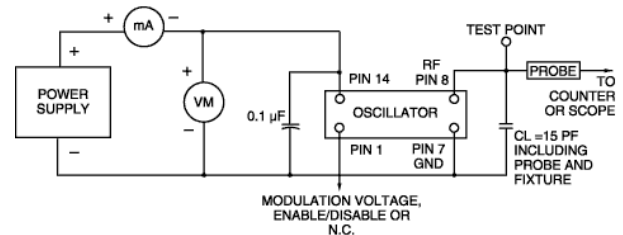


ALL DIMENSIONS ARE INSIDE

#### 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