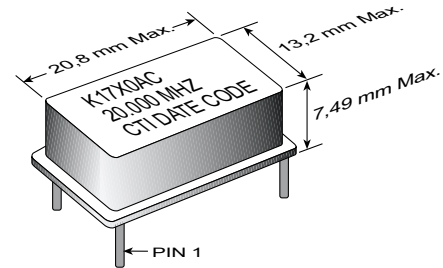


### 5V Temperature Compensated Voltage Controlled Crystal Oscillators

- ♦ **Applications:** Phase Lock Loops  
Clocking "Sync" to NTSC Video Standards;  
Reference Signal; Signal Tracking; ATM
- ♦ 2.0 to 35.0 MHz Frequency Range
- ♦ ±10ppm Frequency Stability - (0°C to 70°C) K1710
- ♦ ±20ppm Frequency Stability - (-40°C to 85°C) K1720
- ♦ -40°C to 85°C Operating Temperature
- ♦ TTL/CMOS Compatible
- ♦ Meets Stratum IV Stability Requirements
- ♦ Hermetically Sealed Package



## ELECTRICAL SPECIFICATIONS

Model	K1710AC	K1720ACM
Frequency Range (MHz)	2.0 to 35	
Input Current (mA)	< 30	
Frequency Control Function	(For Custom Deviation Range, Vc Range, etc. - Consult Factory)	
Deviation (ppm)		
Minimum (ppm)	±60	
Maximum	±120	
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, Aging	
0°C to 70°C	±10	-
-40°C to 85°C	-	±20
Aging, 10 Years	±3.0	
Temperature Range (°C)		
Operating	0°C to +70°C	-40°C to +85°C
Storage	-40°C to +85°C	
Supply Voltage (V)	+5.0V ±5%	
Symmetry CMOS/TTL	45/55 < 16MHz; 40/60 ≥ 16MHz	
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

**K17X0AX** - Specify Frequency

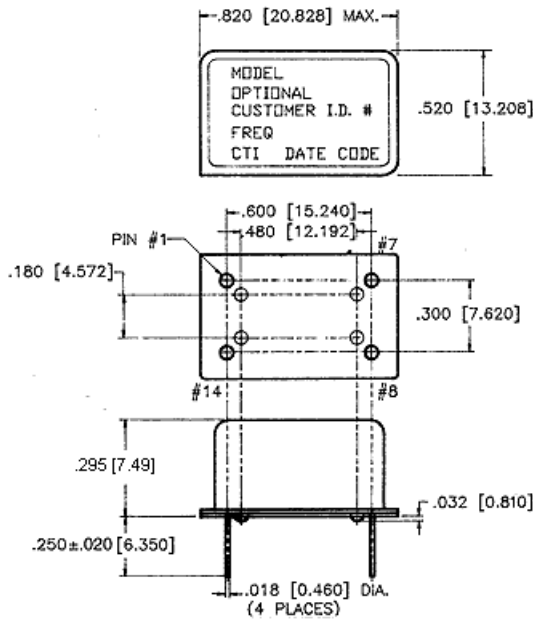
“Blank” = 0°C to 70°C Operating Temp.

“M” = -40°C to +85°C Operating Temp. K1720 Only

“1” = ±10ppm, 0°C to 70°C Operating Temp.

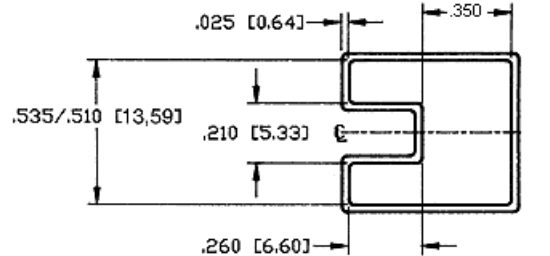
“2” = ±20ppm, -40°C to +85°C Operating Temp.

## 5V Temperature Compensated Voltage Controlled Crystal Oscillators



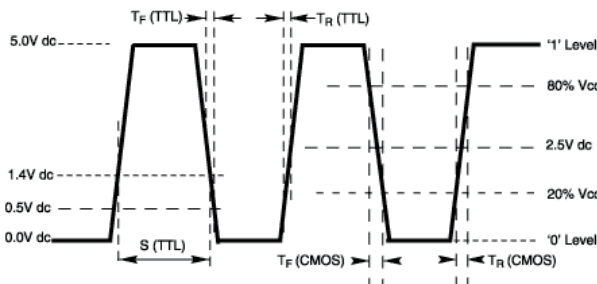
PIN	FUNCTION
1	Voltage Control
7	Gnd/ & Case Gnd
8	Output
14	+ V <sub>CC</sub>

### SHIPPING TUBE CROSS SECTION

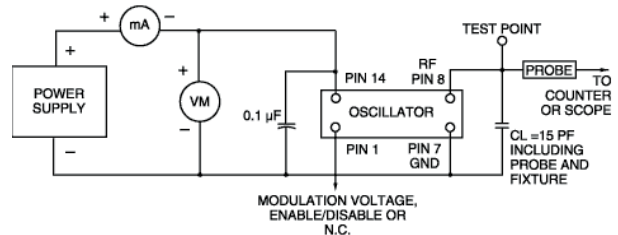


ALL DIMENSIONS ARE INSIDE

### 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 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