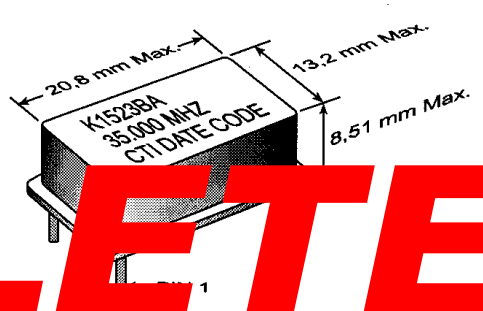
K1523BA Series
5V Voltage Controlled Crystal Oscillator

- **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 t[illegible]Contr[illegible]
- ±25[illegible] Sta[illegible]y
- Var[illegible] of D[illegible]ti[illegible]ens[illegible]ity Optio[illegible]
- -40°[illegible] Op[illegible]tio[illegible]mp[illegible]ture



OBSOLETE

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)	< 19	<19	<26	
Frequency Control Function	(For Custom Deviation Range, Vc Range, etc. – Consult Factory)			
Deviation (ppm)				
Minimum	±100		±100	
Maximum	±160		±200	
Linearity (%)	< 5		<10	
Modulation Bandwidth (±3dB)	> 2 KHz	> 20 KHz		
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			
SSB Phase Noise (dBC/Hz)	10Hz	-65		
Offset from Carrier	100Hz	-95		
	1KHz	-120		
	10KHz	-140		
	100KHz	-150		

PART NUMBERING GUIDE

K1523BA X – Specific Frequency
- "Blank" = 0°C to +70°C Operating Temp.
- "M" = -40°C to +85°C Operating Temp.

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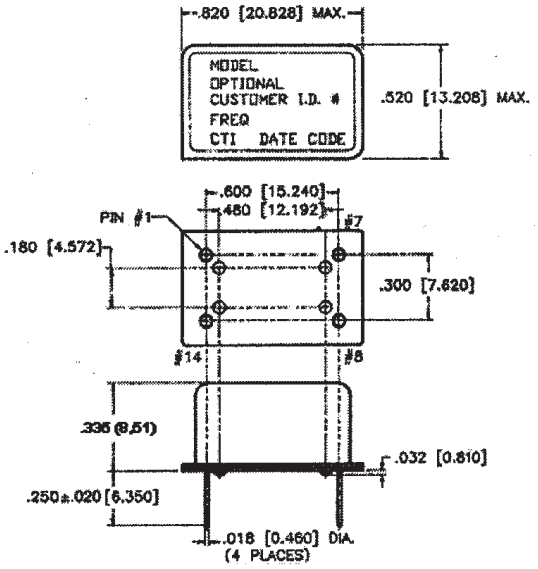
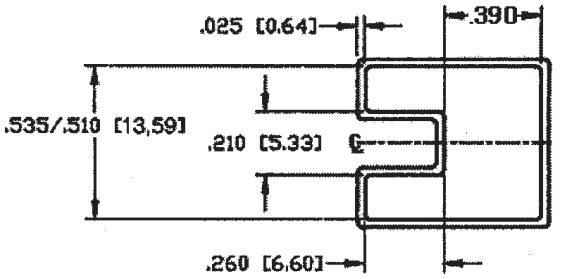


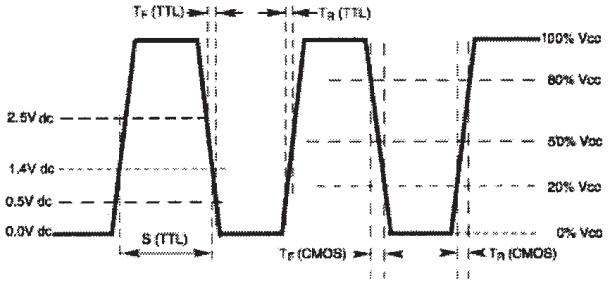
PIN	FUNCTION
1	Voltage Control
7	Gnd/ & Case Gnd
8	Output
14	+ V_{CC}

SHIPPING TUBE CROSS SECTION

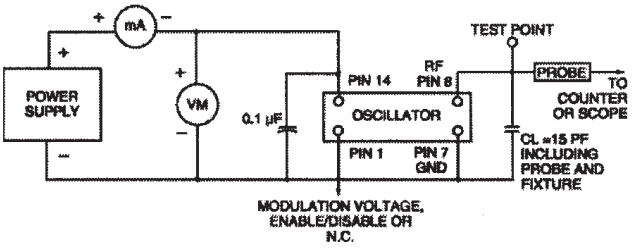


ALL DIMENSIONS ARE INSIDE

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 10-8 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