

# K1602TE Series

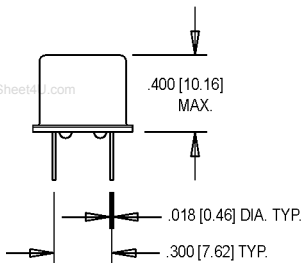
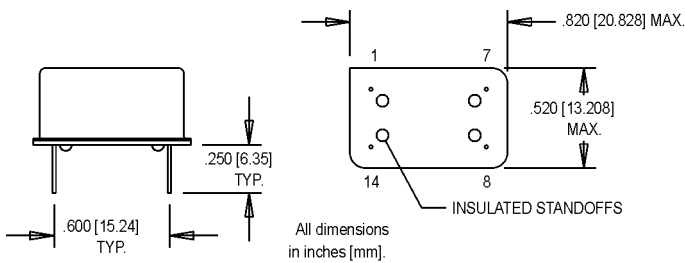
## 14 pin DIP, 5.0 Volt, CMOS/TTL, TCVCXO



- Former **Champion** Product  
TECHNOLOGIES, INC.
- Phase-Locked Loops Clocking "Sync" to NTSC Video Standards, Reference Signal, Signal Tracking

### Ordering Information

	K1602TE	X	-R	00.0000
Product Series				
Pullability				
Blank:	±28 ppm min.			
W:	±40 ppm min.			
RoHS Compliance				
Blank:	non-RoHS compliant part			
-R:	RoHS compliant part			
Frequency (customer specified)				
(Consult factory for "TEW" option)				



### Pin Connections

PIN	FUNCTION
1	Control Voltage
7	Ground/Case Gnd
8	Output
14	+Vdd

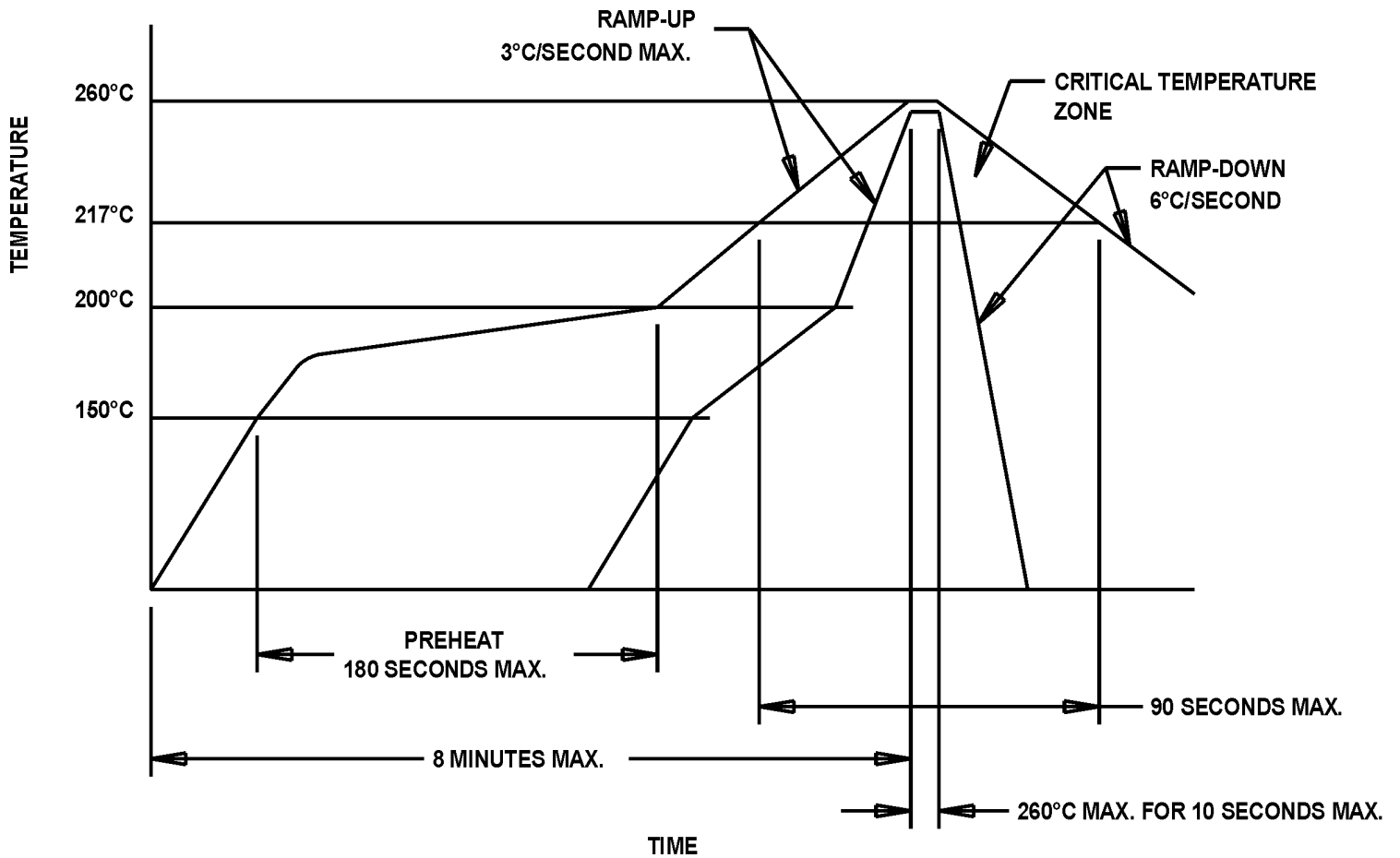
PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes	
Frequency Range	F	2.0 to 35.0	38.88 to 40.0		MHz		
Operating Temperature	T <sub>A</sub>	-40		+85	°C		
Storage Temperature	T <sub>s</sub>	-40		+85	°C		
Frequency Stability	ΔF/F			±7.0	ppm	See Note 1	
Aging (10 Year)		-2		+2	ppm		
Pullability/APR		(See Ordering Information)					
Control Voltage	V <sub>c</sub>	0.5	2.5	4.5	V	Positive Monotonic Slope	
Tuning Range		±28 ("TEW" model ±40)			ppm		
Modulation Bandwidth	f <sub>m</sub>	20			kHz	±3dB	
Input Impedance	Z <sub>in</sub>	50k			Ω	@ 10 kHz	
Input Voltage	V <sub>dd</sub>	4.75	5.0	5.25	V		
Input Current	I <sub>dd</sub>			20	mA		
Output Type						HCMOS/TTL	
Load		5 TTL or 15 pF HCMOS				See Note 2	
Symmetry (Duty Cycle)						See Note 3	
< 14 MHz		45		55	%		
≥14 MHz		40		60	%		
Logic "1" Level	V <sub>oh</sub>	4.5			V		
Logic "0" Level	V <sub>ol</sub>			0.5	V		
Rise/Fall Time	Tr/Tf		3.5	9.0	ns		
Start up Time				20	ms		
Phase Noise (Typical)		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz	Offset from carrier
		-70	-95	-120	-140	-150	dBc/Hz

1. Inclusive of calibration, temperature, voltage, load and aging.
2. TTL load - see load circuit diagram #1. HCMOS load - see load circuit diagram #2.
3. Symmetry is measured at 1.4 V with TTL load, and at 50% V<sub>dd</sub> with HCMOS load.

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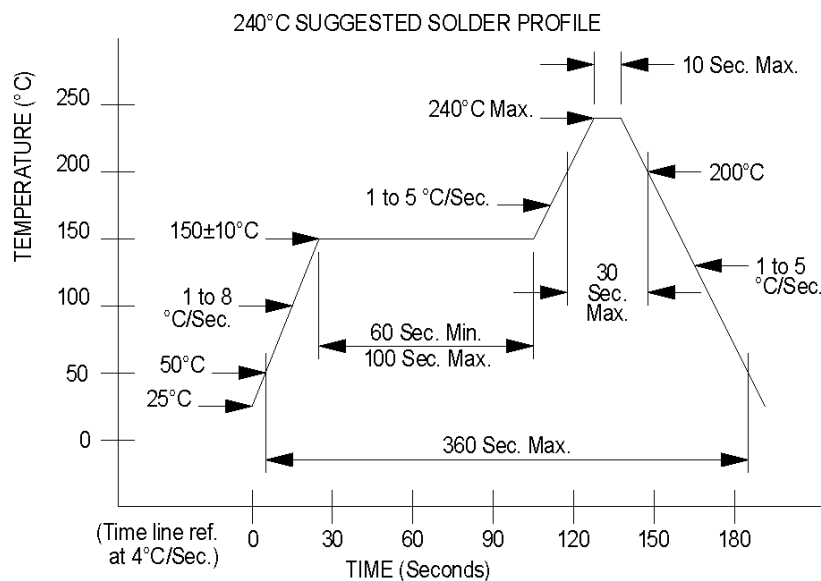
Please see [www.mtronpti.com](http://www.mtronpti.com) for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

# MtronPTI Lead Free Solder Profile



# MtronPTI Non-RoHS Profile

240°C  
All the remaining surface mount,  
both crystal and oscillator.



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