



# Clock Oscillator

## CUSO33xx Model

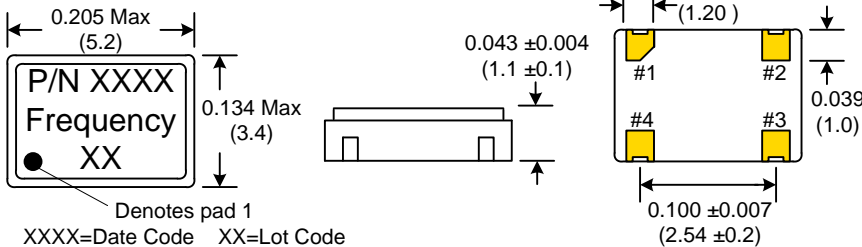
3.2x5.0 mm SMD, 3.3V, HCMOS

<b>Frequency Range:</b>	1.544 MHz to 160.000 MHz
<b>Frequency Stability:</b>	±25ppm to ±100ppm
<b>Temperature Range:</b>	
Operating:	0°C to 70°C
(Option M)	-20°C to 70°C
(Option E)	-40°C to 85°C
<b>Storage:</b>	-45°C to 120°C
<b>Input Voltage:</b>	3.3V ± 0.3V
<b>Input Current:</b>	<30 MHz 4-10mA (freq. dependent) >31 MHz 10-20mA (freq. dependent)
Standby Mode:	5uA Max
<b>Output:</b>	HCMOS
Symmetry:	45/55% Max @ 50% Vdd
Rise/Fall Time:	2ns Typ., 4ns Max
Logic:	"0" = 10% Vdd Max "1" = 90% Vdd Min
Load:	15pF Max
<b>Jitter:</b>	12kHz to 20MHz 0.5ps Typ, 1ps Max RMS
<b>Aging:</b>	<3ppm 1 <sup>st</sup> /yr, 1ppm every year thereafter

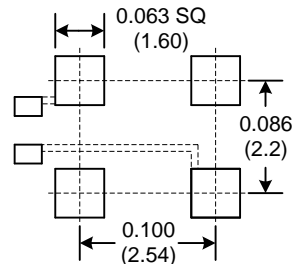


Designed to meet application requirements for smaller layout areas. The CUSO (Crystek Ultra Small Oscillator) Series utilizes fundamental and 3<sup>rd</sup> overtone crystal design thereby providing the proven performance of our larger 5x7mm package. Standby mode and Power-save Pull-up Resistance is standard. Packaged on tape and reel in quantities of 1K.

Dimensions inches (mm)  
All dimensions are Max unless otherwise specified.

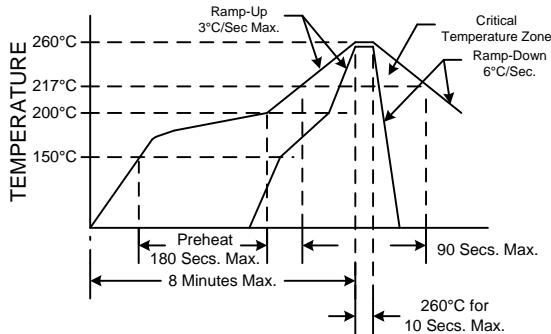


### SUGGESTED PAD LAYOUT



0.01uF Bypass Capacitor Recommended

### RECOMMENDED REFLOW SOLDERING PROFILE



NOTE: Reflow Profile with 240°C peak also acceptable.

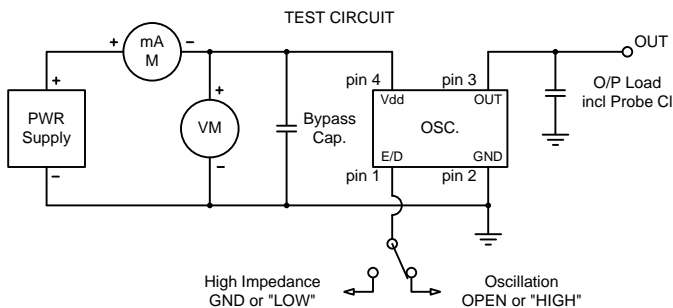
### Crystek Part Number Guide

Example: CUSO3392-44.736  
Example: CUSOM3392-44.736  
Example: CUSOE3392-44.736

Temperature			Frequency Stability
0/70°C	-20/70°C	-40/85°C	
CUSO3390	CUSOM3390	CUSOE3390	±100ppm
CUSO3392	CUSOM3392	CUSOE3392	±50ppm
CUSO3391	CUSOM3391	CUSOE3391	±25ppm

### Standby Function

Function pin 1	Output pin	Oscillator State
Open	Active	Normal Operation
"1" level 0.7xVdd Min	Active	Normal Operation
"0" level 0.3xVdd Max	High Z	Stopped



Specifications subject to change without notice.

TD-021102 Rev. G