

## CUSO33xx Model

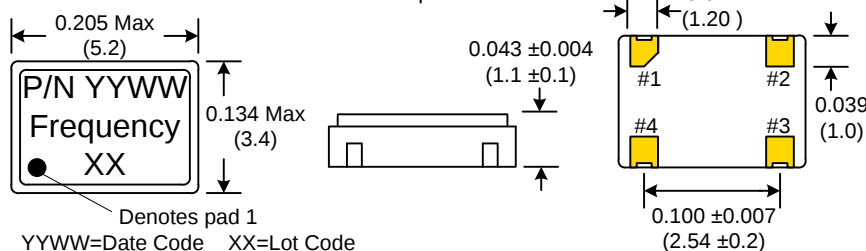
3.2×5.0 mm SMD, 3.3V, HCMOS

|                               |                                                                       |
|-------------------------------|-----------------------------------------------------------------------|
| <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)<br>>31 MHz 10-20mA (freq. dependent) |
| <b>Standby Mode:</b>          | 10uA Max                                                              |
| <b>Output:</b>                | HCMOS                                                                 |
| Symmetry:                     | 45/55% Max @ 50% Vdd                                                  |
| Rise/Fall Time:               | 2ns Typical, 4ns Max                                                  |
| Logic:                        | "0" = 10% Vdd Max<br>"1" = 90% Vdd Min                                |
| Load:                         | 15pF Max                                                              |
| <b>Jitter:</b> 12kHz to 20MHz | 0.5ps Typical, 1ps Max RMS                                            |
| <b>Aging:</b>                 | <3ppm 1 <sup>st</sup> year, 1ppm every year thereafter                |

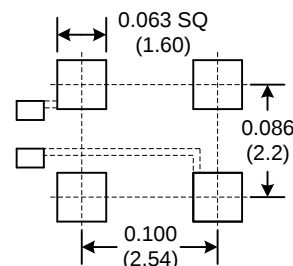


Designed to meet application requirements for smaller layout areas. The CUSO (Crystek Ultra Small Oscillator) Series utilizes fundamental and 3<sup>rd</sup> overtone crystal design thereby providing the proven performance of our larger 5×7mm package. Standby mode and Power-save Pull-up Resistance is standard. Packaged on tape and reel in quantities of 1K.

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

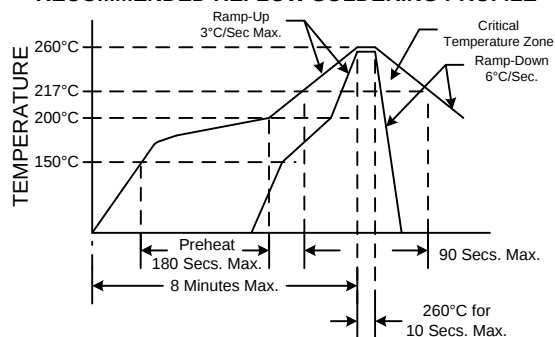


### SUGGESTED PAD LAYOUT



0.01uF Bypass Capacitor Recommended

### RECOMMENDED REFLOW SOLDERING PROFILE



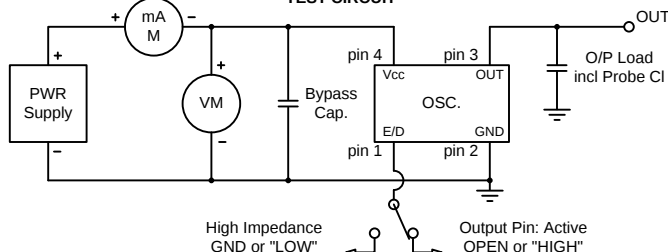
NOTE: Reflow Profile with 240°C peak also acceptable.

### 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              |

### TEST CIRCUIT



### Enable/Disable

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

Rev: H

Date: 23-Feb-2016

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Specifications subject to change without notice.

# Mouser Electronics

Authorized Distributor

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[CUSO3390-16.000](#) [CUSOE3391-24.192](#) [CUS0E3391-39.3216](#)