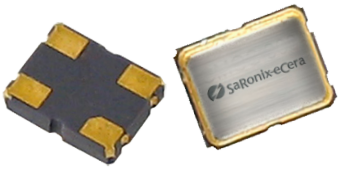
# 3.3V CMOS 32.768kHz



2.0 x 1.6mm Ceramic SMD

## Product Features

- 32.768 kHz
- 3.3V CMOS compatible logic levels
- Low power standby mode (< 10μA)
- Low power active mode (< 80μA)
- Designed for standard reflow and washing techniques
- Pb-free and RoHS/Green compliant

## Product Description

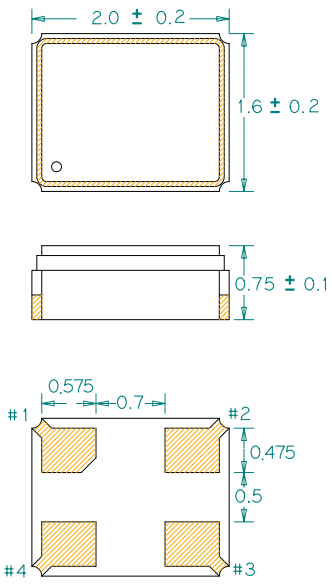
The KM Series real time clock oscillator achieves superb stability over a broad range of operating conditions. The output clock signal is compatible with LVCMOS/LVTTL logic levels. The device, available on tape and reel, is contained in a 2.0 x 1.6mm surface-mount ceramic package.

## Applications

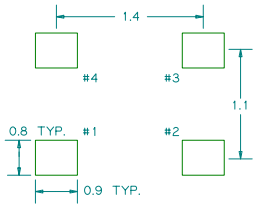
Real-Time Clock Oscillator

Standby clock source

## Package: (Scale: none. Dimensions are in mm)



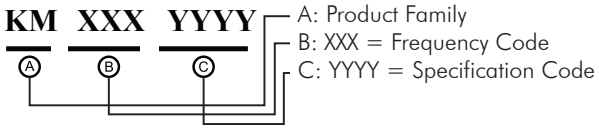

Recommended Land Pattern:




## Pin Functions:

| Pin | Function |
|---|---|
| 1 | OE |
| 2 | Ground |
| 3 | Clock Output |
| 4 | $V_{DD}$ |

## Part Ordering Information:




Following the above format, SaRonix-eCera part numbers will be assigned upon confirmation of exact customer requirements.

# KM Series 3.3V CMOS kHz Crystal Oscillator
# 2.0 x 1.6mm

## Electrical Performance

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---|---|---|---|---|---|
| Output Frequency | | 32.768 | | kHz | As specified |
| Supply Voltage | +2.97 | +3.3 | +3.63 | V | |
| Supply Current, Output Enabled | | 60 | 80 | µA | |
| Supply Current, Standby Mode | | | 10 | µA | Output Hi-Z |
| Frequency Stability | | | ±20 to ±50 | ppm | See Note 1 below |
| Operating Temperature Range | -20 | | +70 | °C | As specified |
| | -40 | | +85 | | As specified |
| Output Logic 0, $V_{OL}$ | | | 0.1 $V_{DD}$ | V | |
| Output Logic 1, $V_{OH}$ | 0.9 $V_{DD}$ | | | V | |
| Output Load | | | 15 | pF | See Note 2 below |
| Duty Cycle | 45 | | 55 | % | measured 50% of $V_{DD}$ |
| Rise and Fall Time | | | 15 | ns | measured 10/90% of $V_{DD}$ |

**Notes:**
1. As specified. Stability includes all combinations of operating temperature, load changes, rated input (supply) voltage changes, initial calibration tolerance (25°C), aging (1 year at 25°C average effective ambient temperature), shock and vibration.
2. For specifications other than those listed, please contact sales.

## Output Enable / Disable Function

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---|---|---|---|---|---|
| Input Voltage (pin 1), Output Enable | 0.7 $V_{DD}$ | | | V | or open |
| Input Voltage (pin 1), Output Disable (low power standby) | | | 0.3 $V_{DD}$ | V | Output is Hi-Z |
| Internal Pullup Resistance | | 470 | | kΩ | |
| Output Disable Delay | | | 100 | ns | |
| Output Enable Delay | | | 2 | ms | |

## Absolute Maximum Ratings

| Parameter | Min. | Typ. | Max. | Units | Notes |
|---|---|---|---|---|---|
| Storage Temperature | -55 | | +125 | °C | |

**For the latest product information visit:** http://www.pericom.com/products/crystals-and-crystal-oscillators/xo/?part=KM+3.3

**For test circuit go to**: http://www.pericom.com/pdf/sre/tc_cmos2.pdf

**For soldering reflow profile and reliability test ratings go to:** http://www.pericom.com/pdf/sre/reflow.pdf

**For tape and reel information go to:** http://www.pericom.com/pdf/sre/tr_2016_xo.pdf