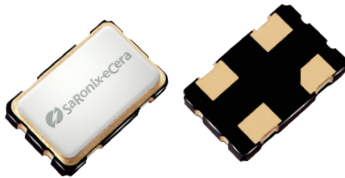


1.8V CMOS 32.768kHz

KD



5.0 x 3.2mm Ceramic SMD

### Product Features

- 32.768 kHz
- 1.8V CMOS compatible logic levels
- Low power standby mode ( $< 10\mu\text{A}$ )
- Low power active mode ( $< 0.17\text{mA typ.}$ )
- Designed for standard reflow and washing techniques
- Pb-free and RoHS/Green compliant

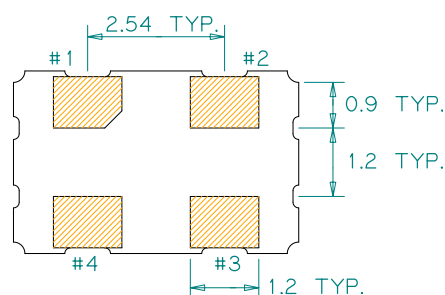
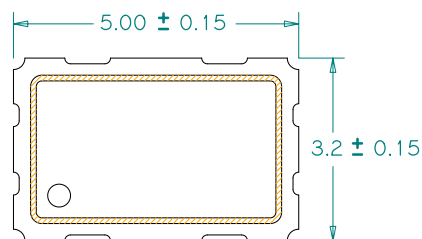
### Product Description

The KD Series is a real time clock oscillator that 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 5.0 x 3.2mm surface-mount ceramic package.

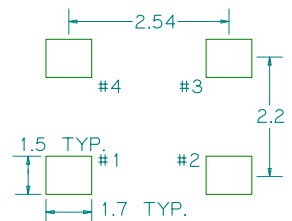
### Applications

Real-Time Clock Oscillator

### Package: (Dimensions are in mm)



### Recommended Land Pattern:

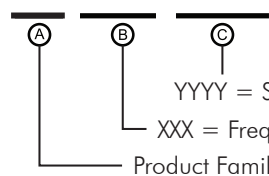


### Pin Functions:

| Pin | Function        |
|-----|-----------------|
| 1   | OE Function     |
| 2   | Ground          |
| 3   | Clock Output    |
| 4   | V <sub>DD</sub> |

### Part Ordering Information:

**KD XXX YYYY**



YYYY = Specification Code

XXX = Frequency Code

Product Family

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

**Electrical Performance**

| Parameter                       | Min.                | Typ.   | Max.                | Units | Notes                              |
|---------------------------------|---------------------|--------|---------------------|-------|------------------------------------|
| Output Frequency                |                     | 32.768 |                     | kHz   | As specified                       |
| Supply Voltage                  | +1.71               | +1.8   | +1.89               | V     |                                    |
| Supply Current, Output Enabled  |                     | 0.17   | 0.3                 | mA    | 15 pF load                         |
| 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 <sub>OL</sub> |                     |        | 0.1 V <sub>DD</sub> | V     |                                    |
| Output Logic 1, V <sub>OH</sub> | 0.9 V <sub>DD</sub> |        |                     | V     |                                    |
| Output Load                     |                     |        | 15                  | pF    | See Note 2 below                   |
| Duty Cycle                      | 45                  |        | 55                  | %     | measured 50% of V <sub>DD</sub>    |
| Rise and Fall Time              |                     |        | 15                  | ns    | measured 10/90% of V <sub>DD</sub> |

**Notes:**

- 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.
- 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 <sub>DD</sub> |      |                     | V     | or open        |
| Input Voltage (pin 1), Output Disable (low power standby) |                     |      | 0.3 V <sub>DD</sub> | V     | Output is Hi-Z |
| Internal Pullup Resistance                                |                     | 470  |                     | kΩ    |                |
| Output Disable Delay                                      |                     |      | 100                 | ns    |                |
| Output Enable Delay                                       |                     |      | 10                  | 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/timing/oscillators/KD1.8/>

For test circuit go to: [http://www.pericom.com/pdf/sre/tc\\_cmos2.pdf](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\\_5032\\_xo.pdf](http://www.pericom.com/pdf/sre/tr_5032_xo.pdf)