

2.0 x 1.6mm Ceramic SMD

### Product Features

- AT Cut 32.768 kHz XO
- CMOS compatible logic levels
- Ultra low active current ( $< 30\mu\text{A}$ )
- Very tight temperature stability
- Designed for standard reflow and washing techniques
- Pb-free and RoHS/Green compliant

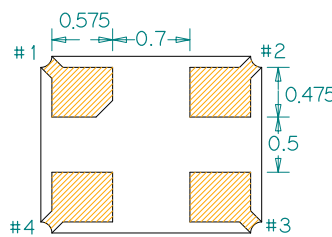
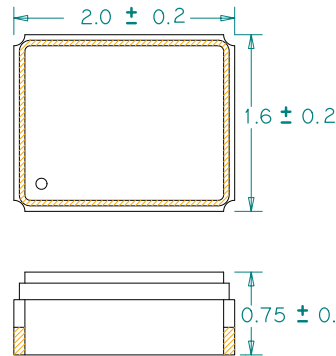
### Product Description

The KX201 Series real time clock oscillator achieves superb stability over a broad range of operating conditions. It utilizes Pericom proprietary technology to achieve ultra low current less than  $30\mu\text{A}$ . 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.

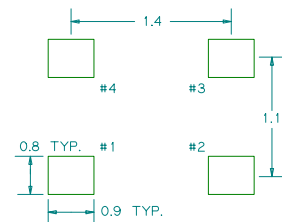
### Applications

- Real-Time Clock Oscillator where low current and tight stability are needed

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



### Recommended Land Pattern:

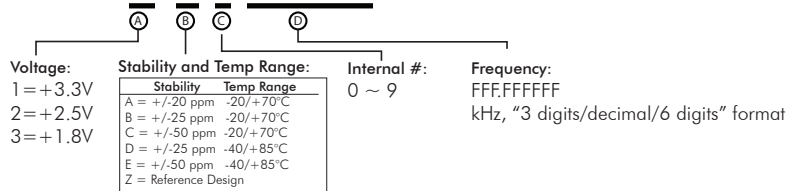


### Pin Functions:

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

### Part Ordering Information:

**KX 201 V I S 032.768000**



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	
Supply Voltage	+1.71	+1.8	+1.89	V	See part ordering options
	+2.25	+2.5	+2.75	V	
	+3.0	+3.3	+3.6	V	
Supply Current, Output Enabled		25	30	μA	With load
Supply Current, Standby Mode			0.5	μA	Output Hi-Z
Frequency Stability			±50	ppm	See part ordering options, and note 1
Operating Temperature Range	-40		+85	C	See part ordering options
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
Duty Cycle	45		55	%	measured 50% of V <sub>DD</sub>
Rise and Fall Time		40	50	ns	measured 20/80% of V <sub>DD</sub> = 1.8V
		30	40	ns	measured 20/80% of V <sub>DD</sub> = 2.5V
		20	30	ns	measured 20/80% of V <sub>DD</sub> = 3.3V
Start-up time			10	ms	

#### Notes:

- 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		100		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/KX201/>

For test circuit go to: [http://www.pericom.com/pdf/sre/tc\\_hcm0s2.pdf](http://www.pericom.com/pdf/sre/tc_hcm0s2.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](http://www.pericom.com/pdf/sre/tr_2016_xo.pdf)