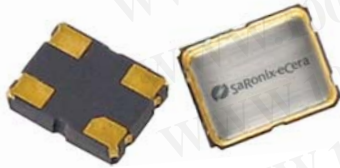


# 3.3V CMOS 32.768kHz



3.2 x 2.5mm Ceramic SMD

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

### Product Features

- 32.768 kHz
- 3.3V CMOS compatible logic levels
- Low power standby mode ( $< 10\mu A$ )
- Low power active mode (1mA)
- Designed for standard reflow and washing techniques
- Pb-free and RoHS/Green compliant

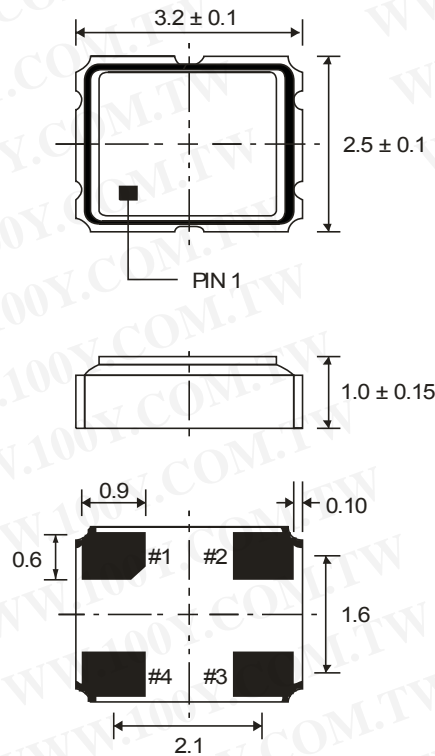
### Product Description

The KK 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 3.2 x 2.5mm surface-mount ceramic package.

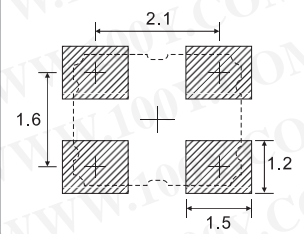
### Applications

Real-Time Clock Oscillator

### Package:



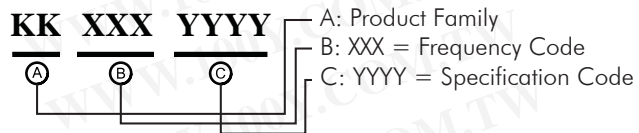
### Recommended Land Pattern:



### Pin Functions:

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

### Part Ordering Information:



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	+2.97	+3.3	+3.63	V	+2.5 VDC option also available
Supply Current, Output Enabled		0.42	1.0	mA	+3.63 VDC, 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	-10		+70	°C	As specified
Operating Temperature (EXT)	-40		+85	°C	As specified
Output Logic 0, VOL		0.15	0.4	V	
Output Logic 1, VOH	V <sub>DD</sub> - 0.4	V <sub>DD</sub> - 0.15		V	
Output Load			15	pF	See Note 2 below
Duty Cycle	45		55	%	measured 50% of V <sub>DD</sub>
Rise and Fall Time		0.2	1	μsec	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.

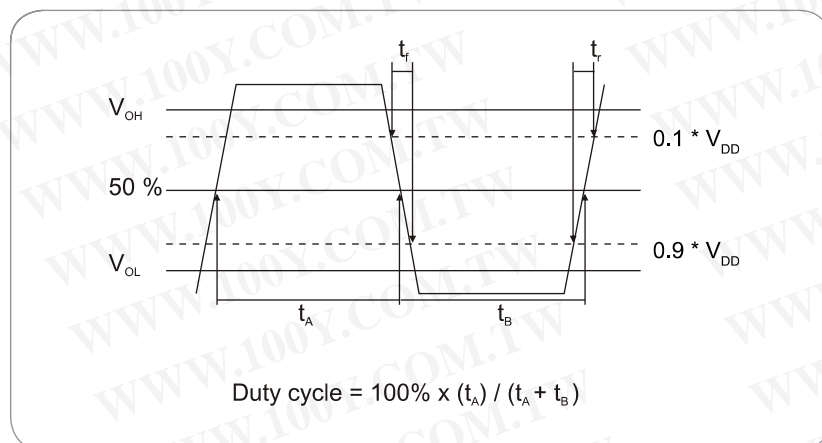
### Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (pin 1), Output Enable	0.7 V <sub>CC</sub>			V	or open
Input Voltage (pin 1), Output Disable (low power standby)			0.3 V <sub>CC</sub>	V	Output is Hi-Z
Internal Pullup Resistance	40			k	
Output Disable Delay			2	μsec	
Output Enable Delay			2	μsec	

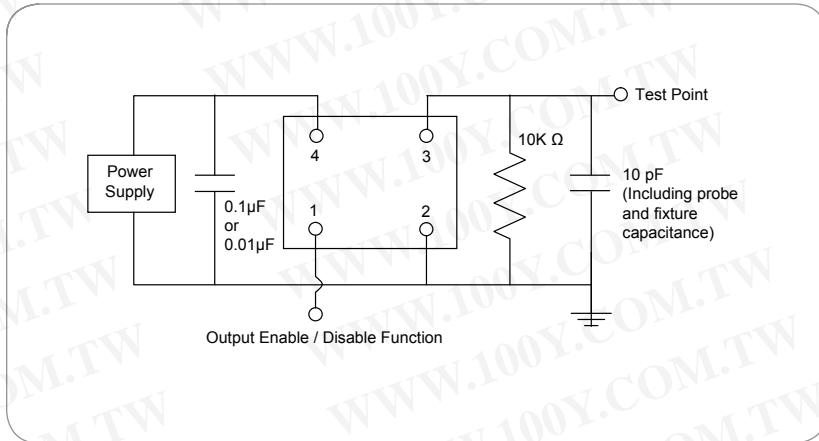
### Absolute Maximum Ratings

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

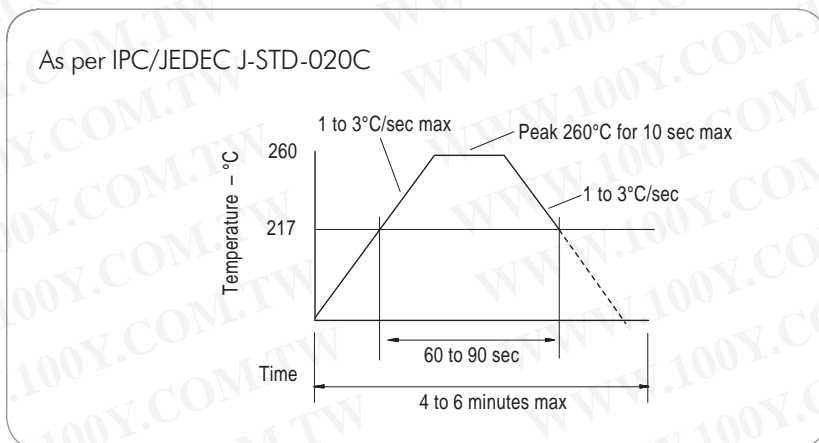
### Output Waveform



### Test Circuit



### Reflow Soldering Profile



### Reliability Test Ratings

This product is rated to meet the following test conditions:

Type	Parameter	Test Condition
Mechanical	Shock	MIL-STD-883, Method 2002, Condition B
Mechanical	Solderability	JESD22-B102-D Method 2 (Preconditioning E)
Mechanical	Terminal strength	MIL-STD-883, Method 2004, Condition D
Mechanical	Gross leak	MIL-STD-883, Method 1014, Condition C
Mechanical	Fine leak	MIL-STD-883, Method 1014, Condition A2 ( $R_1 = 2 \times 10^{-8}$ atm cc/s)
Mechanical	Solvent resistance	MIL-STD-202, Method 215
Environmental	Thermal shock	MIL-STD-883, Method 1011, Condition A
Environmental	Moisture resistance	MIL-STD-883, Method 1004
Environmental	Vibration	MIL-STD-883, Method 2007, Condition A
Environmental	Resistance to soldering heat	J-STD-020C Table 5-2 Pb-free devices (2 cycles max)