saRonix-eCera™ KK Series Seam Sealed Real Time Clock Oscillator

1.8~3.3 CMOS

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 3.2x2.5mm surface-mount ceramic package.

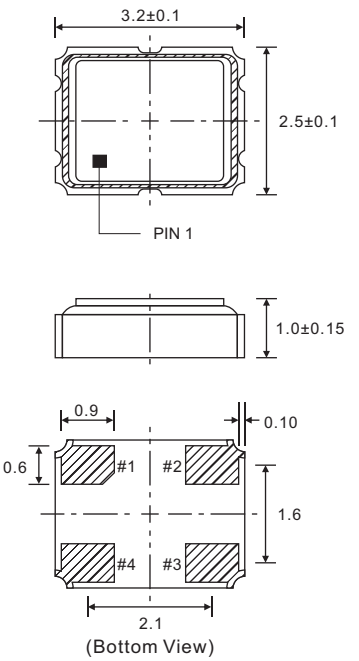
Product Features

- CMOS compatible logic levels
- Pin-compatible with standard 3.2x2.5mm packages
- Designed for standard reflow and washing techniques
- Low power standby mode
- Available on tape & reel; 3000pcs/reel
- Pb-free and RoHS/Green compliant

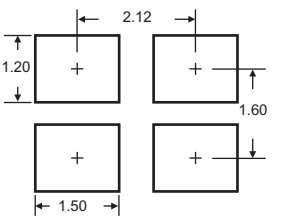
Applications

- Networking
- Portable Multimedia Devices
- FM Tuner
- GPS/Navigation
- Blue tooth

Dimensions (UNIT: mm)



Footprint (UNIT: mm)



External high-frequency power decoupling is recommended. (See test circuit for minimum recommendation). To ensure optimal performance, do not route traces beneath the package.

Scale: None. Dimensions ar in mm

Pin Functions

Pin	Function
#1	OE Function
#2	Ground
#3	Clock Output
#4	V_{CC}

Part Number Example

K K 3 2 7 0 0 0 1
A B C

A: Product series
B: Digit of frequency
C: Internal specification

Electrical Performance

Parameter	Min.	Typ.	Max.	Units	Notes
Output frequency		32.768		kHz	As specified
Supply voltage	1.8		3.3	V	
Supply current, output enabled			10	mA	
Supply current, standby mode			10	µA	Output Hi-Z
Frequency stability	±20		±50	ppm	See note 1 below
Operating temperature	-40		+85	°C	As specified
Output logic 0, V_{OL}			10% V_{DD}	V	
Output logic 1, V_{OH}	90% V_{DD}			V	
Output load			15	pF	
Duty cycle	45		55	%	-40 to +85°C measured 50%V_{DD}
Rise and fall time			130	ns	0.1V_{DD} to 0.9V_{DD} or 0.9V_{DD} to 0.1V_{DD}

Note:
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.

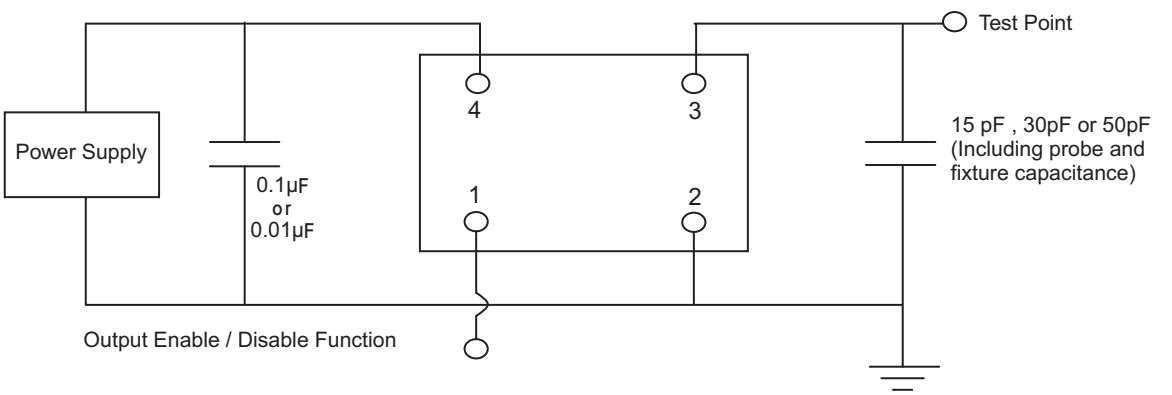
Output Enable / Disable Function

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	50			k ohm	
Output disable delay			100	ns	
Output enable delay			10	ms	

Absolute Maximum Ratings

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

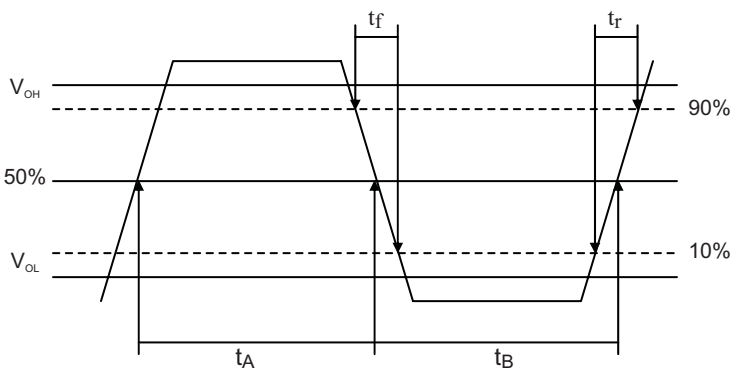
Test Circuit



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= $2x10^{-8}$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)

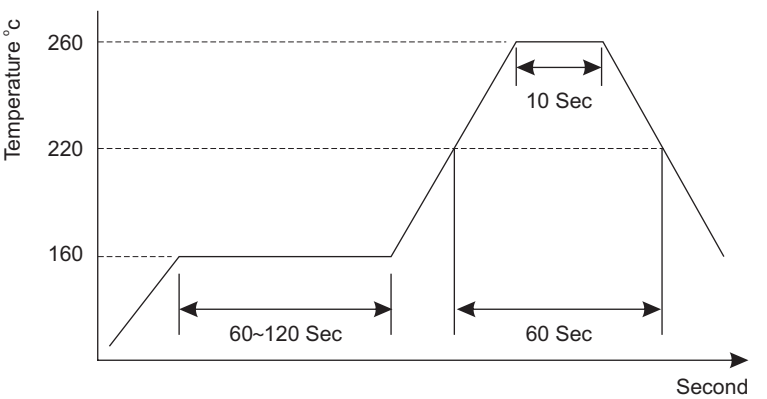
Output Waveform



Duty cycle=100% x (t_A) / (t_A+t_B)

Refow Soldering Profle

As per IPC/JEDEC J-STD-020C



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Pericom:

KK3270049 KK3270049Z KK3270029 KK3270045 KK3270046 KK3270050