



Accurate Kinetic Energy

No.11-3 Jianguo Rd., Tanzi Dist., 42760 Taiwan

All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

Page: 1/4 Date: December 31,2023

Specification Title:

**HCMOS Output Clock Oscillator
Time of Day - 32.768KHz
1.6 x 1.2 millimeter Surface Mount
General Product Specification**

Part Number: **S16-32.768 KHz Series**

Electrical Specifications:

Frequency Range	32.768				KHz
Frequency Stability	±25 ~ ±100				ppm
Aging per Year	±3				ppm Max.
Operating Temperature Range	Standard	-20 ~ +70			°C
	Extended	-40 ~ +85 Or Specify (-40~+125 is available)			
Storage Temperature Range	-55 ~ +125				
Supply Voltage	1.8 ± 5%	2.5 ± 5%	3.3 ± 10%	1.62 ~ 3.63	VDD
Input Current	0.1	0.1	0.1	0.1	mA Max.
Output Voltage	Logic High (Voh)	90%			VDD Min.
	Logic Low (Vol)	10%			VDD Max.
Output Symmetry (Duty Cycle)	Standard	40 ~ 60 (at 50% VDD)			%
	Tight	45 ~ 55 (at 50% VDD)			
Output Load	15				pF Max.
Rise and Fall Time	100				ns Max.
Enable-Disable Function	Tri-State				

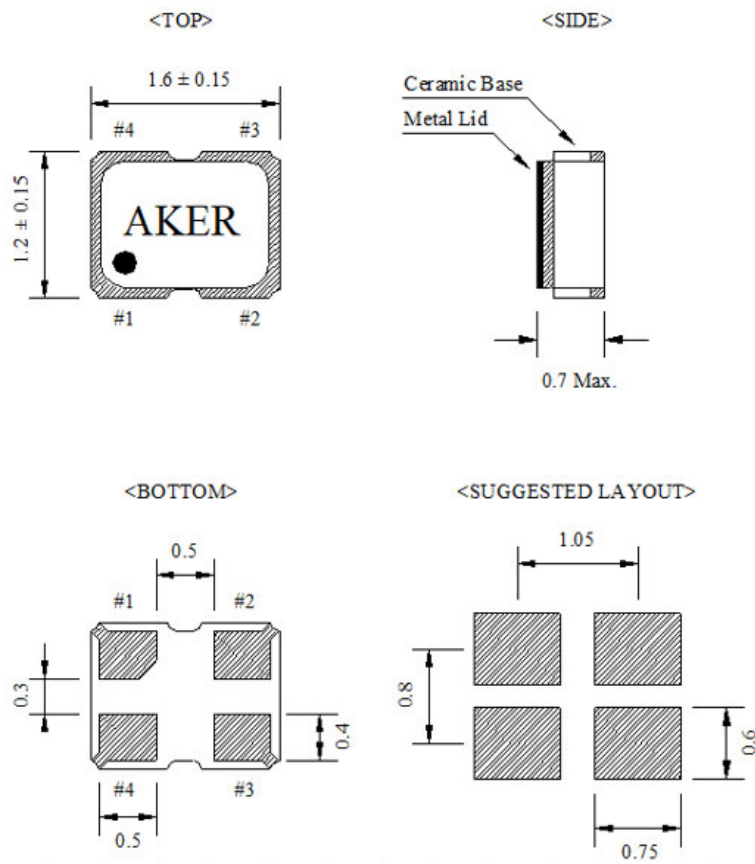
Temperature stability is Inclusive of all conditions:

Calibration Tolerance at +25°C, frequency stability over the operating temperature range, supply voltage change, output load change, shock, vilbration, and 1st year aging at +25°C.

**RoHS Compliant
Pb - Lead Free**

Ltr	Revisions	Date	Appr

Mechanical Outline and Solder Pad Layout:



Pin Connection	
PIN No.	Connection
#1	Enable/Disable
#2	GND
#3	Output
#4	VDD

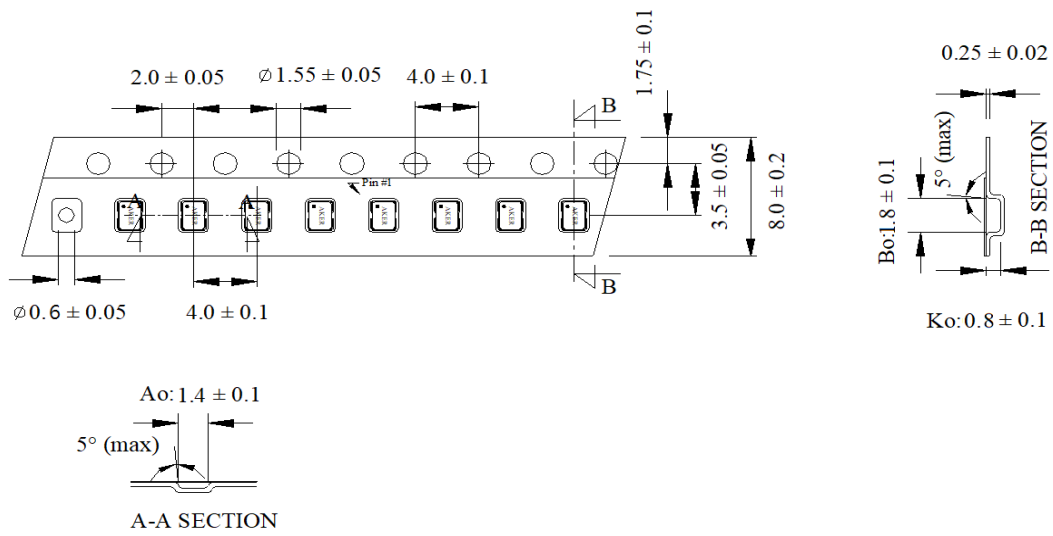
Enable/Disable Function	
PIN #1	PIN #3
HIGH or OPEN	Operating
LOW	High Impedance

Package is Seam Sealed Ceramic-Metal.

Terminator Pads are Ni/Au.

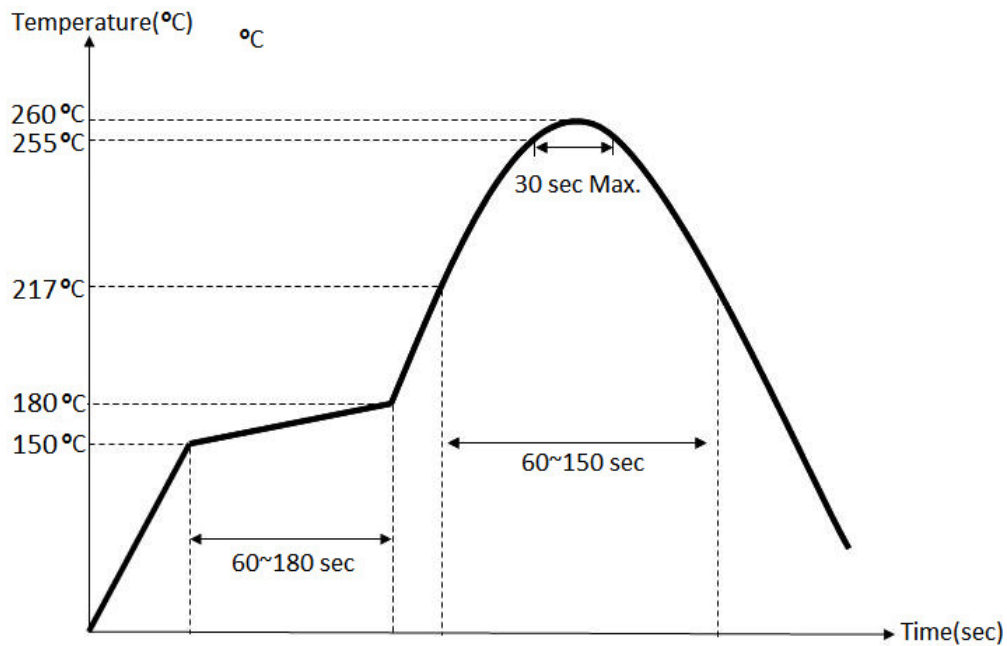
Dimensions are millimeters.

Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



How to build a Part Number:

Series	S	Parameter
Package	16	1.6 x 1.2 mm
Supply Voltage	33	+3.3 VDD ± 10%
	25	+2.5 VDD ± 5%
	18	+1.8 VDD ± 5%
	M	+1.62 ~ +3.63 VDD
Temperature Stability	10	±100 ppm
	05	±50 ppm
	025	±25 ppm
	020	±20 ppm
Duty Cycle	See Notes	40%~60%
	T	45%~55%
Frequency	32.768K	Hz
Temperature Range	See Notes	-20 ~ +70 °C
	X	-40 ~ +85 °C
	X1	-40 ~ +125 °C
	X2	-40 ~ +105 °C
Output Load	15	pF Max
Packaging	M	250pcs Reel
	R	1000pcs Reel
	R3	3000pcs Reel

Part Number Example:

S163310-32.768K-X-15-R

S16: 1.6 x 1.2 mm SMD Package

33: +3.3±10% VDD Supply Voltage

10: ±100 ppm Temperature Stability

32.768 KHz Nominal Frequency

X: -40 ~ + 85°C Extended Temperature Range

15: 15 pF Max Output Load

R: Tape and Reel Packaging - 1000pcs Reel

Notes:

- 1- Standard Duty Cycle and Temperature Range do not need to be included in Part Number description.
- 2- Product is shipped in Tape and Reel configuration.
- 3- Quantities less than 250pcs are shipped in tape only.
- 4- Specification subject to change without notice.