



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: April 23,2025

Specification Title:

HCMOS Output Clock Oscillator Ultra Miniature 1.6 x 1.2 millimeter Surface Mount General Product Specification

Part Number:

S16 Series

Electrical Specifications:

Frequency Range		2.000 ~ 60.000				MHz
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 ± 10%	2.5 ± 10%	3.3 ± 10%	1.62 ~ 3.63	VDD
Input Current	2.000 to 9.999MHz	3	4	5	5	mA Max.
	10.000 to 19.999MHz	4	5	6	6	
	20.000 to 31.999MHz	5	6	7	7	
	32.000 to 60.000MHz	6	7	8	8	
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 Level		CMOS				
Output Load		15				pF Max.
Rise and Fall Time	2.000 to 9.999MHz	6	5	5	6	ns Max.
	10.000 to 19.999MHz	6	5	5	6	
	20.000 to 31.999MHz	5	5	5	5	
	32.000 to 60.000MHz	5	5	5	5	
Phase Jitter (12 KHz to 5 MHz)	10.000 to 39.999MHz	1				ps Max. RMS
Phase Jitter (12 KHz to 20 MHz)	40.000 to 60.000MHz					
Enable-Disable Function		Tri-State				
Start Up Time		5				ms Max.

Temperature stability is Inclusive of all conditions:

Calibration Tolerance at $+25^{\circ}\text{C}$, frequency stability over the operating temperature range, supply voltage change, output load change, shock, vibration, and 1st year aging at $+25^{\circ}\text{C}$.

**RoHS Compliant
Pb - Lead Free**

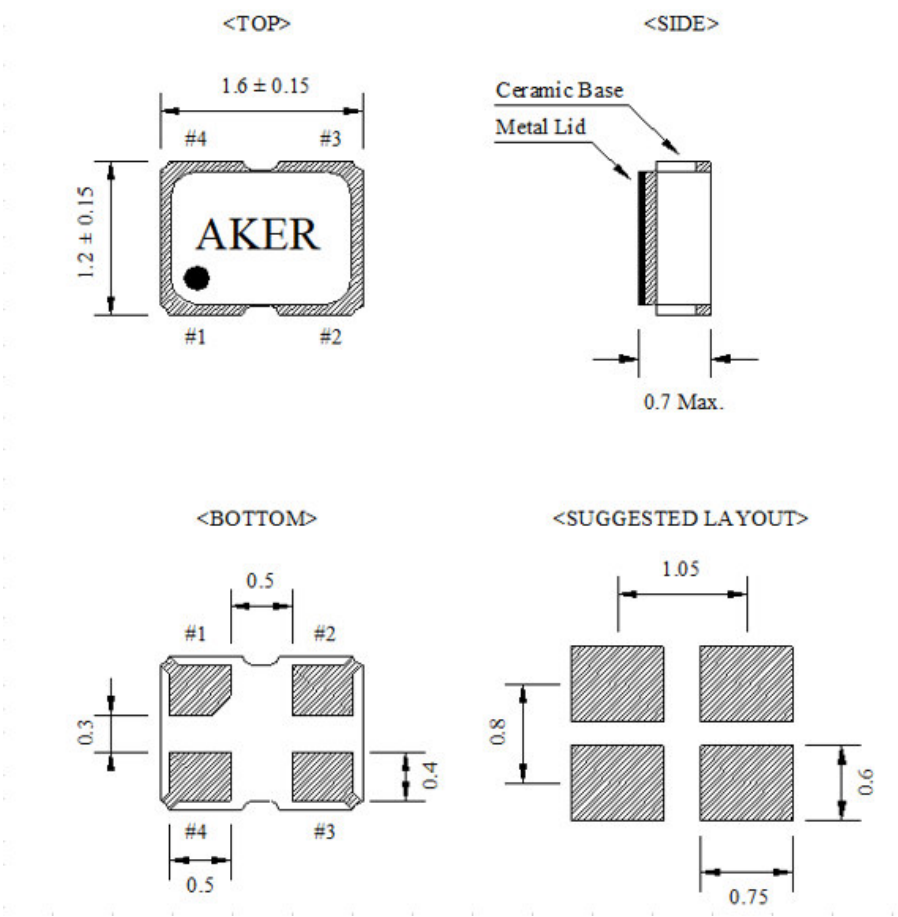
Ltr

Revisions

Date

Appr

Mechanical Outline and Solder Pad Layout:

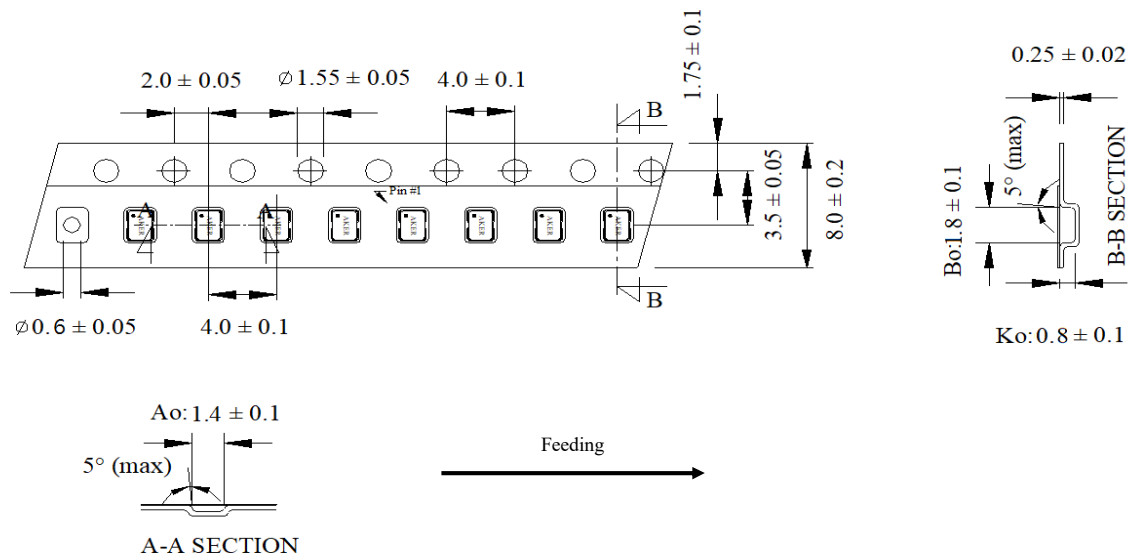


Pin Connection	
PIN No.	Connection
#1	Enable/Disable
#2	GND
#3	Output
#4	VDD

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

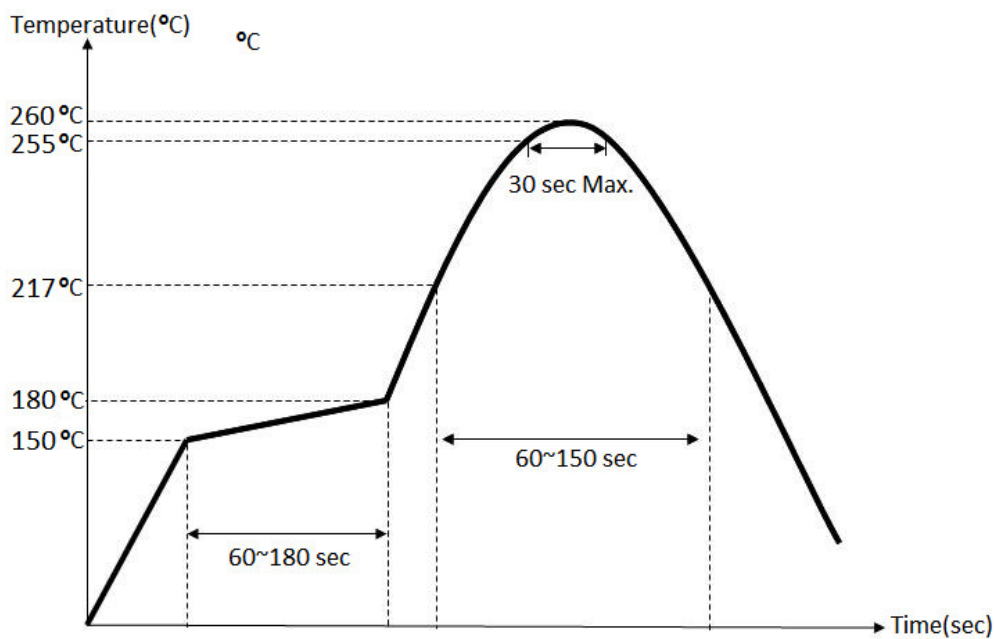
Package is Seam Sealed Ceramic-Metal.
Terminator Pads are Ni/Au.
Dimensions are millimeters.

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 $\pm$ 10%
	25	+2.5 VDD $\pm$ 5%
	18	+1.8 VDD $\pm$ 5%
	M	+1.62 ~ +3.63 VDD
Temperature Stability	10	$\pm$ 100 ppm
	05	$\pm$ 50 ppm
	025	$\pm$ 25 ppm
Duty Cycle	See Notes	40%~60%
	T	45%~55%
Frequency	-	-
	2.000~60.000	MHz
Temperature Range	See Notes	-20 ~ +70 °C
	X	-40 ~ +85 °C
	X1	-40 ~ +125 °C
	X2	-40 ~ +105 °C
Packaging	M	250pcs Reel
	R	1000pcs Reel
	R3	3000pcs Reel

Part Number Example:

S163305T-50.000-X-R

S16: 1.6 x 1.2 mm SMD Package

33: +3.3 $\pm$ 10% VDD Supply Voltage

05: $\pm$ 50 ppm Temperature Stability

T: 45%~55% Tight Symmetry

50.000 MHz Nominal Frequency

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

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.