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 16,2024

Specification Title:

Clock Oscillator Automotive Grade
HCSL - Complimentary Output
5.0 x 3.2 millimeter Surface Mount
General Product Specification

AEC-Q200 Qualified
IATF 16949 Certified

Part Number:	**S5A Auto HCSL Series**	

Electrical Specifications:

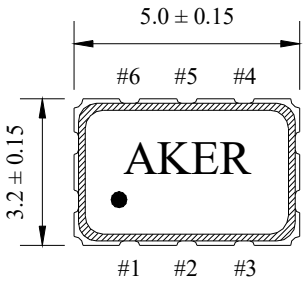
Frequency Range		13.500 ~ 160.000				MHz
Frequency Stability		±25 ~ ±100				ppm
Aging per Year		±3				ppm Max.
Operating Temperature Range	Standard	-20 ~ +70				°C
	Option	-40 ~ +85				
	Option	-40 ~ +105				
	Option	-40 ~ +125				
Storage Temperature Range		-55 ~ +125				
Supply Voltage		1.8 ± 5%	2.5 ± 5%	3.3 ± 5%	2.375~3.63	VDD
Input Current		30	30	30	30	mA Max.
Output Voltage	Logic High (Voh)	0.85	0.85	0.85	0.85	VDD Max.
	Logic Low (Vol)	-0.15	-0.15	-0.15	-0.15	VDD Min.
Output Symmetry (Duty Cycle)		45 ~ 55				%
Output Type		HCSL				
Output Load (Terminated to GND)		50				ohm
Rise and Fall Time	13.500 to 99.999MHz	1.0	1.0	1.0	1.0	ns Max.
	100.000 to 160.000MHz	0.7	0.7	0.7	0.7	ns Max.
Enable-Disable Function		Tri-State				
Input Enable Voltage		1.26	1.75	2.31	70%VDD	VDD Min.
Input Disable Voltage		0.54	0.75	0.99	30%VDD	VDD Max.
Phase Jitter (12 KHz to 20 MHz)		0.5				ps Max. RMS

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	Ltr	Revisions	Date	Appr
Pb - Lead Free				
AEC-Q200 Qualified				
IATF 16949 Certified				

Mechanical Outline and Solder Pad Layout:

<TOP>



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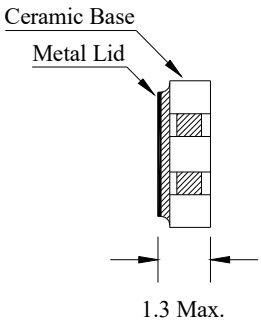

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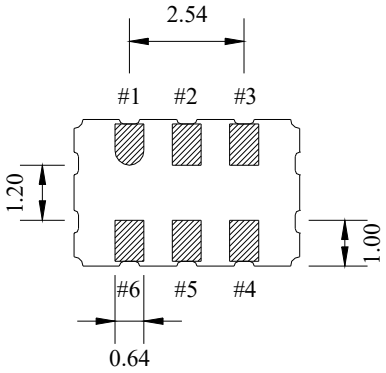
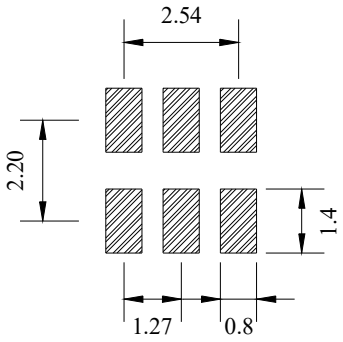


<SUGGESTED LAYOUT>

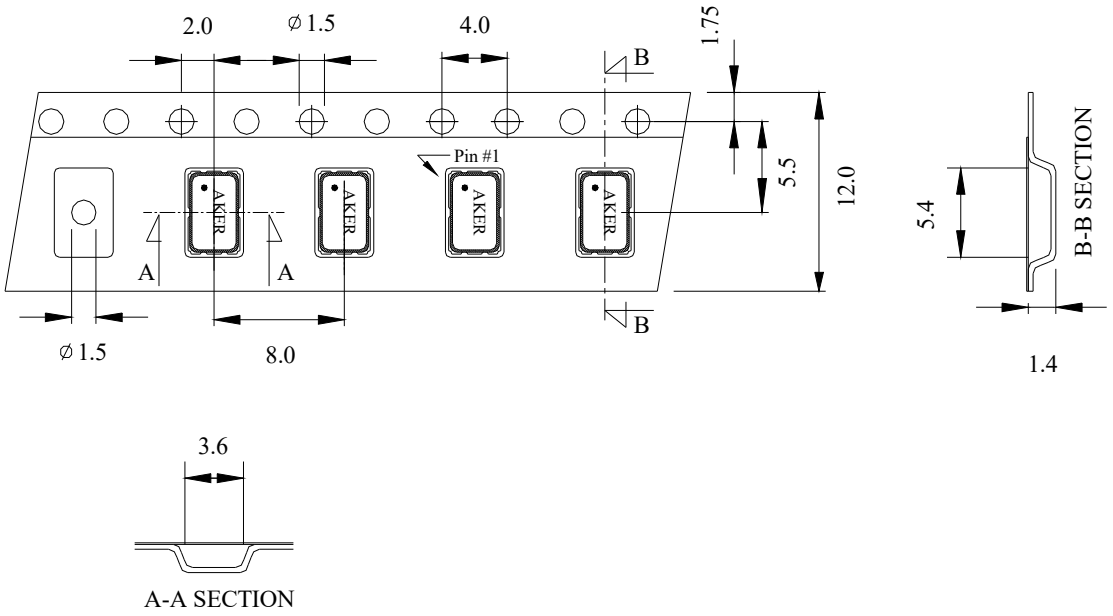


Pin Connection	
PIN No.	Connection
#1	Enable/Disable
#2	NC
#3	GND
#4	Output - Q
#5	Output - QN
#6	VDD

Enable/Disable Function	
PIN #1	PIN #4 & #5
HIGH or OPEN	Operating
LOW	High Impedance

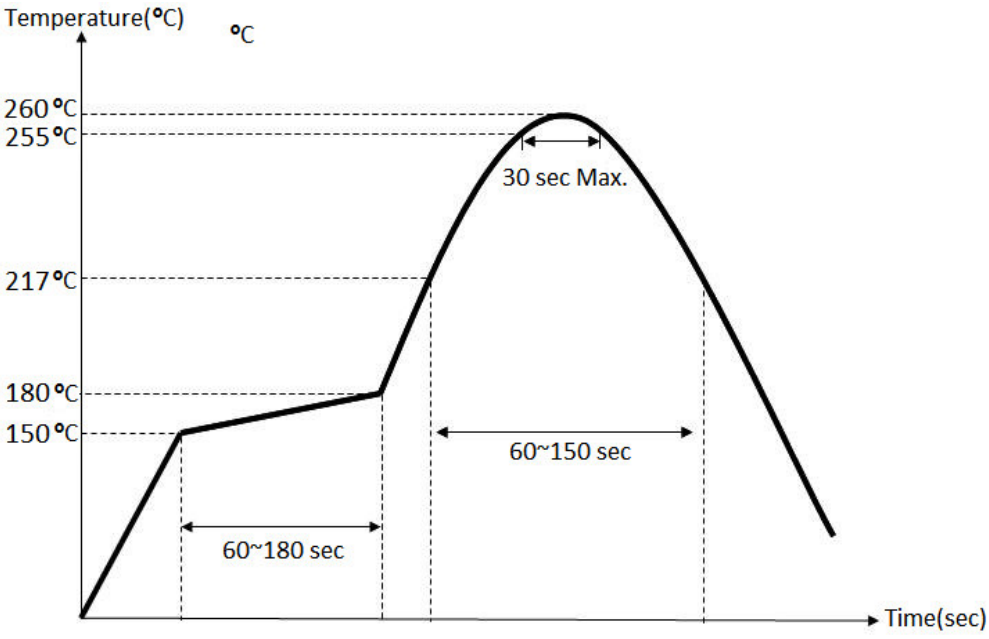
Package is Seam Sealed Ceramic-Metal.
Terminator Pads are Ni/Au.
Dimensions are millimeters.

Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



How to build a Part Number:

Series	S	Parameter
Package	5A	5.0 x 3.2 mm - 6 Pad
Supply Voltage	33	+3.3 VDD ± 5%
	25	+2.5 VDD ± 5%
	18	+1.8 VDD ± 5%
	M	+2.375 ~ +3.63 VDD
Temperature Stability	10	±100 ppm
	05	±50 ppm
	025	±25 ppm
	-	
Frequency	13.500~160.000	MHz
	-	
Output Load	H	HCSL
	-	
AECQ-200	A	Automotive
	-	
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

Part Number Example:

S5A3305-156.250-H-A-X-R

S5A: 5.0 x 3.2 mm SMD Package - 6 Pad

33: +3.3±5% VDD Supply Voltage

05: ±50 ppm Temperature Stability

156.250 MHz Nominal Frequency

H: HCSL Output

A: Automotive Grade

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.