

**RoHS Compliant  
Pb - Lead Free**

Ltr	Revisions	Date	Appr

**Electrical Specifications:**

Frequency Range		1.000~166.000	1.000~200.000	MHz
Frequency Stability		±25 ~ ±100		ppm
Aging per Year		±3		ppm Max.
Operating Temperature Range	Standard	-20 ~ +70		°C
	Extended	-40 ~ +85		
Storage Temperature Range		-55 ~ +125		
Supply Voltage		2.5 ± 5%	3.3 ± 10%	VDD
Input Current	1.000 to 49.999MHz	20	20	mA Max.
	50.000 to 99.999MHz	30	30	
	100.000 to 149.999MHz	30	35	
	150.000 to 200.000MHz	35	40	
Output Voltage	Logic High (Voh)	90%		VDD Min.
	Logic Low (Vol)	10%		VDD Max.
Output Symmetry (Duty Cycle)	Standard	40 ~ 60		%
	Extended	45 ~ 55		
Output Type		CMOS		
Output Load		15		pF Max.
Rise and Fall Time	1.000 to 49.999MHz	10	10	ns Max.
	50.000 to 99.999MHz	5	5	
	100.000 to 149.999MHz	4	4	
	150.000 to 200.000MHz	3	3	
Enable-Disable Function		Tri-State		
Input Enable Voltage		70%		VDD Min.
Input Disable Voltage		30%		VDD Max.
Modulation Frequency		30 ~ 40		KHz
Spread Spectrum Modulation	Center Spread	±0.125 ~ ±2.000		%
	Down Spread	-0.250 ~ -4.000		
Start Up Time		10		ms Max.

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, vibration, and 1st year aging at +25°C.



Accurate Kinetic Energy

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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

Page: 1/4 Date: January 10,2022

Specification Title:

**Clock Oscillator  
Spread Spectrum - Low EMI  
5.0 x 3.2 millimeter Surface Mount  
General Product Specification**

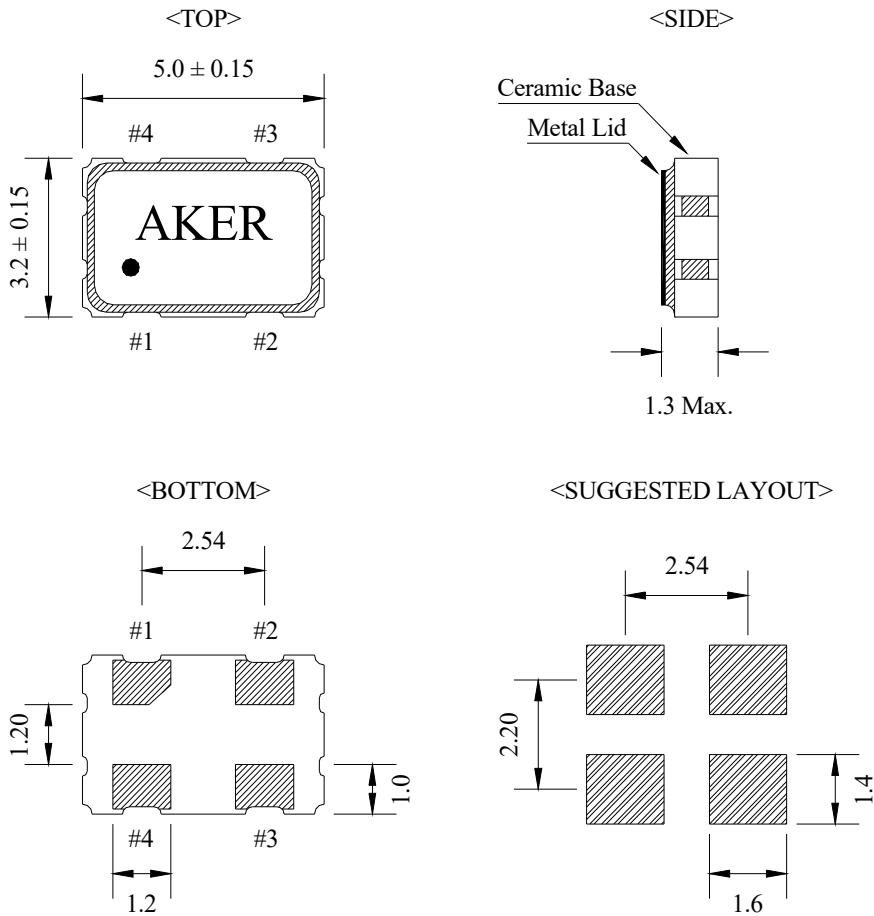
Part Number:

**S5 Low EMI Series**

## Spread Spectrum Modulation Specifications:

Down Spread				Center Spread			
LE-0.25	-0.25%	LE-2.0	-2.0%	LE0.125	±0.125%	LE1.0	±1.0%
LE-0.5	-0.5%	LE-2.5	-2.5%	LE0.25	±0.25%	LE1.25	±1.25%
LE-0.75	-0.75%	LE-3.0	-3.0%	LE0.375	±0.375%	LE1.5	±1.5%
LE-1.0	-1.0%	LE-3.5	-3.5%	LE0.5	±0.5%	LE1.75	±1.75%
LE-1.5	-1.25%	LE-4.0	-4.0%	LE0.75	±0.75%	LE2.0	±2.0%

## Mechanical Outline and Solder Pad Layout:



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

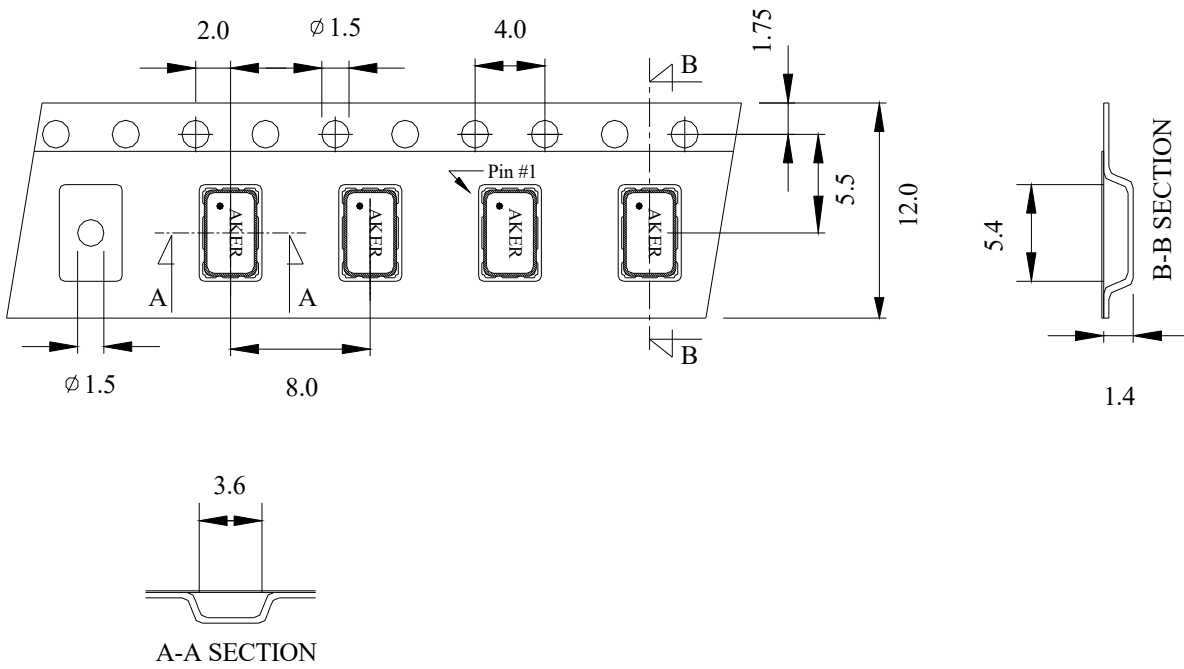
Enable/Disable Function	
PIN #1	PIN #3
HIGH or OPEN	Operating
LOW	High Impedance

Package is Seam Sealed Ceramic-Metal.

Terminator Pads are Ni/Au.

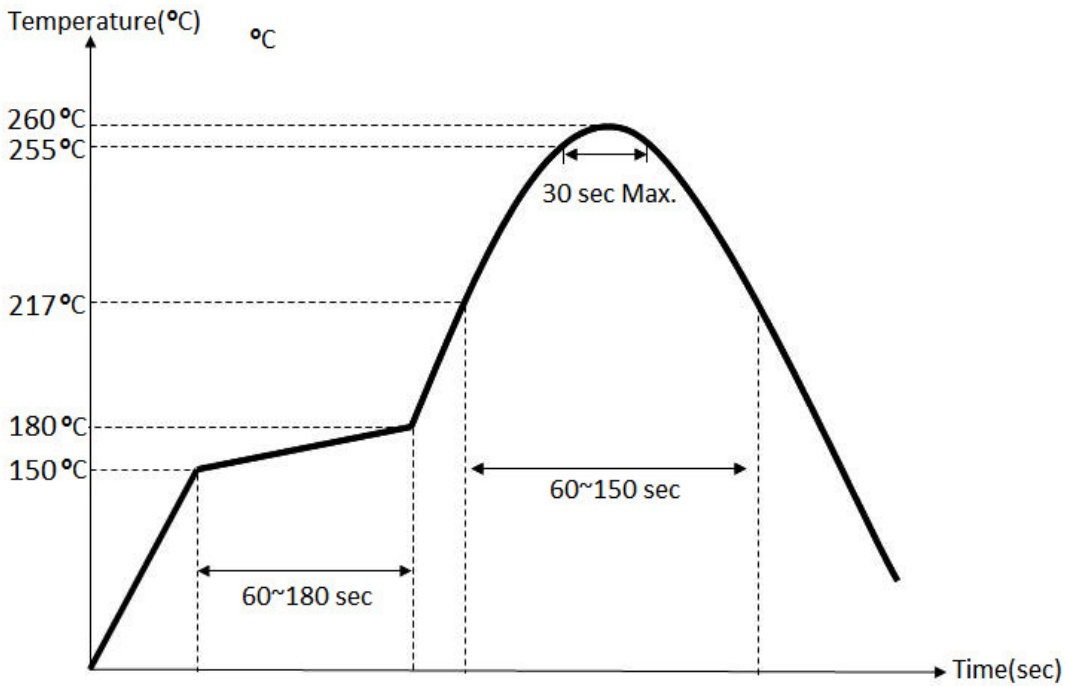
Dimensions are millimeters.

### Carrier Tape Dimensions:



Dimensions are millimeters.

### Solder Reflow Characteristics:



## How to build a Part Number:

Series	S	Parameter
Package	5	5.0 x 3.2 mm
Supply Voltage	33	+3.3 VDD ± 10%
	25	+2.5 VDD ± 5%
Temperature Stability	10	±100 ppm
	05	±50 ppm
	03	±30 ppm
	025	±25 ppm
	020	±20 ppm
Duty Cycle	See Notes	40%~60%
	T	45%~55%
	-	
Frequency	1.000~200.000	MHz
	-	
Temperature Range	See Notes	-20 ~ +70 °C
	X	-40 ~ +85 °C
	-	
Spread Spectrum Modulation	LE(Center Spread)	±0.125% ~ ±2.000%
	LE-(Down Spread)	-0.250% ~ -4.000%
	-	
Packaging	M	250pcs Reel
	R	1000pcs Reel

### Part Number Example:

S53305T-50.000-X-LE1.0-R

S5: 5.0 x 3.2 mm SMD Package

33: +3.3±10% VDD Supply Voltage

05: ±50 ppm Temperature Stability

T: 45%~55% Tight Symmetry

50.000 MHz Nominal Frequency

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

LE1.0: ±1.0% Center Spread (See Page 2 For Other Specifications)

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.