



No.11-3 Jianguo Rd., T.E.P.Z. 42760 Taiwan, ROC

All dimensions are millimeters.

CAD:	TCR
Review:	EG
Appr:	JL
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Date:	August 01, 2022

**Specification Title:**

**Microprocessor Crystal Unit  
Low Profile  
5.0 x 3.2 millimeter Surface Mount - 4 Pad  
General Product Specification**

**Series Name: C5S Series**

**Electrical Specifications:**

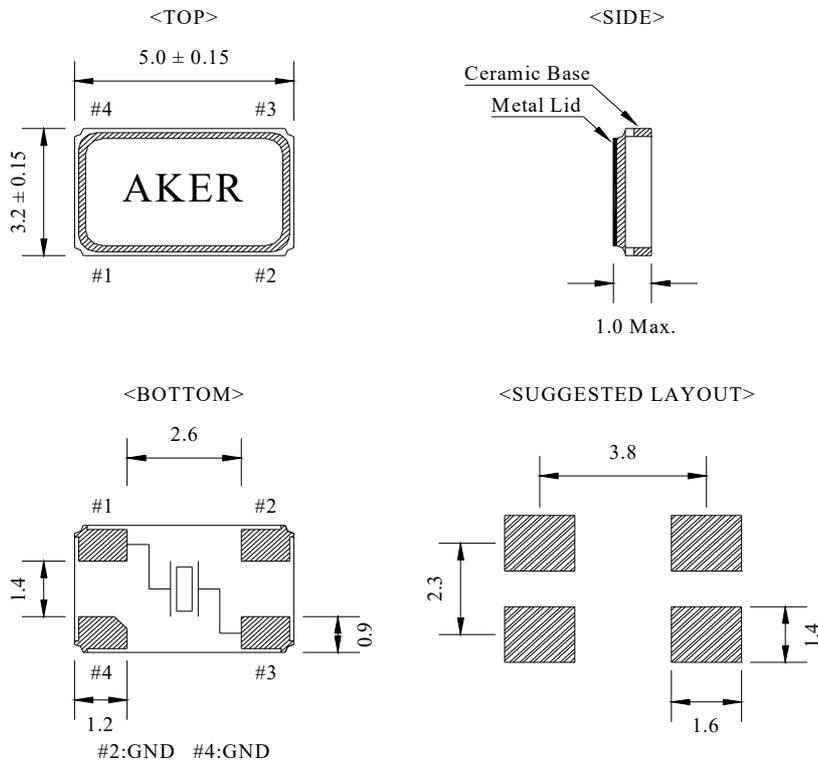
<b>Frequency Range</b>		<b>8.000 to 133.000</b>	<b>MHz</b>
<b>Mode of Oscillation</b>	<b>Fundamental</b>	<b>8.000 to 54.000</b>	<b>MHz</b>
	<b>Third Overtone</b>	<b>40.000 to 133.00</b>	
<b>Frequency Tolerance at 25°C</b>	<b>Standard</b>	<b>±30</b>	<b>PPM Max</b>
	<b>Optional</b>	<b>±50</b>	
		<b>±20</b>	
		<b>±15</b>	
		<b>±10</b>	
<b>Frequency Stability over Temperature Range</b>	<b>Standard</b>	<b>±50</b>	<b>PPM Max</b>
	<b>Optional</b>	<b>±100</b>	
		<b>±30</b>	
		<b>±25</b>	
		<b>±20</b>	
		<b>±15</b>	
<b>Operating Temperature Range</b>	<b>Standard</b>	<b>-20 to +70</b>	<b>°C</b>
	<b>Extended</b>	<b>-40 to +85</b>	
		<b>-40 to +125</b>	
<b>Storage Temperature Range</b>		<b>-55 to +125</b>	
<b>Aging</b>		<b>±3</b>	<b>PPM Max/Year</b>
<b>Load Capacitance</b>		<b>6 to 47 and Series Resonance</b>	<b>pF</b>
<b>Shunt Capacitance</b>		<b>7.0</b>	
<b>Equivalent Series Resistance(ESR)</b>		<b>See ESR Table</b>	<b>Ohm</b>
<b>Drive Level</b>		<b>100</b>	<b>uW Max</b>
<b>Insulation Resistance</b>		<b>500 at 100 Vdc ± 15 Vdc</b>	<b>M Ohm</b>

**Frequency Range and ESR Values:**

Frequency Range in MHz	ESR Ohm Max	Mode of Operation	Frequency Range in MHz	ESR Ohm Max	Mode of Operation
8.000 to 9.999	60	Fundamental	40.000 to 59.999	70	Third Overtone
10.000 to 11.999	45	Fundamental	60.000 to 133.000	60	Third Overtone
12.000 to 15.999	35	Fundamental			
16.000 to 19.999	30	Fundamental			
20.000 to 49.999	25	Fundamental			
50.000 to 54.000	20	Fundamental			

<b>RoHS Compliant Pb - Lead Free</b>	Ltr	Revisions	Date	Appr

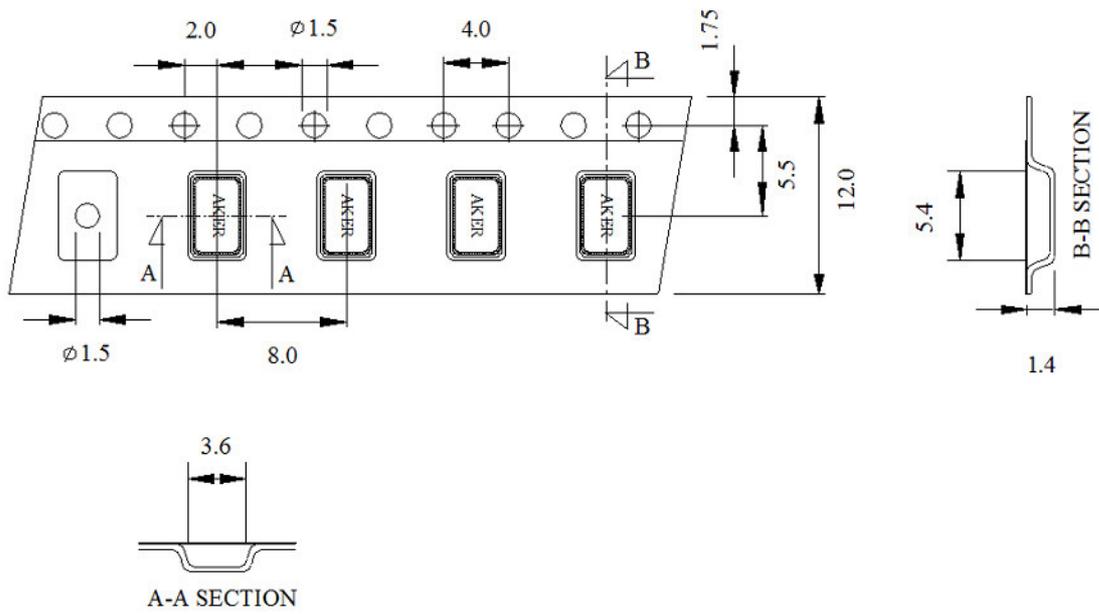
**Mechanical Outline:**



**Package is Seam Sealed Ceramic-Metal.  
Dimensions are millimeters.**

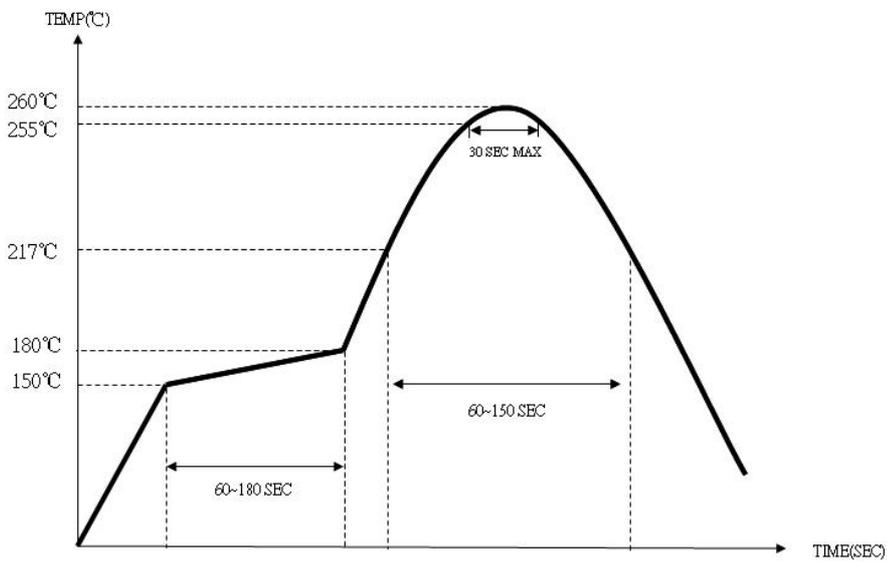
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**Carrier Tape Dimensions:**



Dimensions are millimeters.

**Solder Reflow Characteristics:**



**How to build a Part Number:**

Series		C	Parameter	
Package		5S	5.0 x 3.2 mm - 4 Pad	
-				
Frequency		8.000 to 133.000	MHz	
-				
Load Capacitance		6	6 pF	
		10	10 pF	
		12	12 pF	
		16	16 pF	
		18	18 pF	
		20	20 pF	
		32	32 pF	
		S	Series	
-				
Frequency Tolerance		Standard	30	±30PPM
		Option	25	±25PPM
			20	±20PPM
			15	±15PPM
			10	±10PPM
Frequency Stability		Standard	50	±50PPM
		Option	100	±100PPM
			30	±30PPM
			25	±25PPM
			20	±20PPM
			15	±15PPM
	10	±10PPM*		
-				
Mode of Oscillation		See Notes	Fundamental	
		3	Third Overtone	
-				
Temperature Range		Standard	See Notes	-20 to +70 °C
		Option	X	-40 to +85 °C
		Option	X1	-40 to +125 °C
		Option	X2	-40 to +105 °C
-				
Packaging		M	250pcs Reel	
		R	1000pcs Reel	

**Part Number Example:**

**C5S-40.000-3050-X-R**

**C5S: 5.0 x 3.2 mm SMD Seam Sealed Package - 4 Pad**

**40.000 MHz Nominal Frequency**

**18 pF Load Capacitance**

**3050: ±30 PPM Frequency Tolerance and ±50 PPM Frequency Stability**

**X: -40 to +85° C Extended Temperature Range**

**R: Tape and Reel Packaging**

**Notes:**

**1- Fundamental mode does not need to be included in Part Number description.**

**\* ±10 PPM Temperature Stability is only available from -30 to +85° C.**

**2- Other Load Capacitances are available other than those listed in Part Number table above.**

**3- Product is shipped in Tape and Reel configuration.**

**4- Quantities less than 250pcs are shipped in tape**

**5- Specification subject to change without notice**

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**C5S Series**