

RoHS Compliant Pb - Lead Free AEC-Q200 Qualified	Ltr	Revisions	Date	Appr

**Electrical Specifications:**

Frequency Range		6.000 to 133.000	MHz
Mode of Oscillation	Fundamental	6.000 to 50.000	MHz
	Third Overtone	40.000 to 133.00	
Frequency Tolerance at 25°C		±50	PPM Max
Frequency Stability over Temperature Range		±100	
Operating Temperature Range		-40 to +125	°C
Storage Temperature Range		-55 to +150	
Aging		±3	PPM Max/Year
Load Capacitance		10 to 32 and Series Resonance	pF
Shunt Capacitance		7.0	
Equivalent Series Resistance(ESR)		See ESR Table	Ohm
Drive Level		100	uW Max
Insulation Resistance		500 at 100 Vdc ± 15 Vdc	M Ohm

**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
6.000 to 7.999	70	Fundamental	40.000 to 79.999	70	Third Overtone
8.000 to 9.999	40	Fundamental	80.000 to 133.000	60	Third Overtone
10.000 to 14.999	35	Fundamental			
15.000 to 39.999	30	Fundamental			
40.000 to 50.000	20	Fundamental			



11-3 Chien-Kuo Rd T.E.P.Z. 4027 Taiwan, ROC

All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

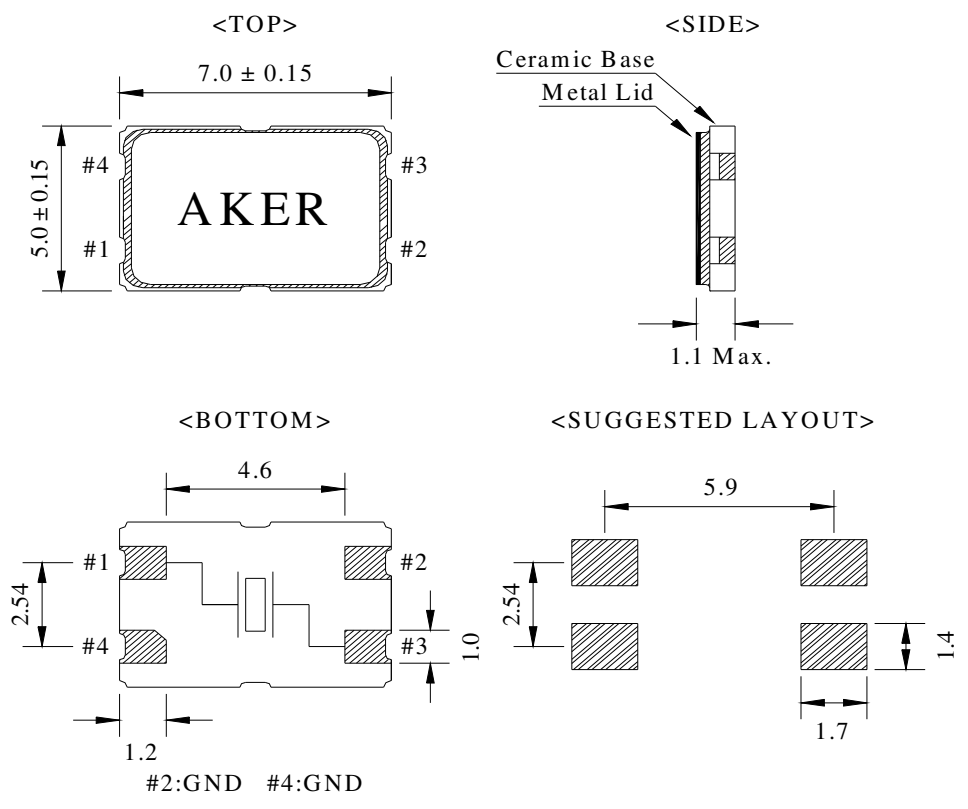
Page: 1/4 Date: Dec 28,2018

**Specification Title:**

**Microprocessor Crystal Unit  
Automotive Temperature Range  
5 x 7 millimeter Surface Mount - 4 Pad  
General Product Specification**

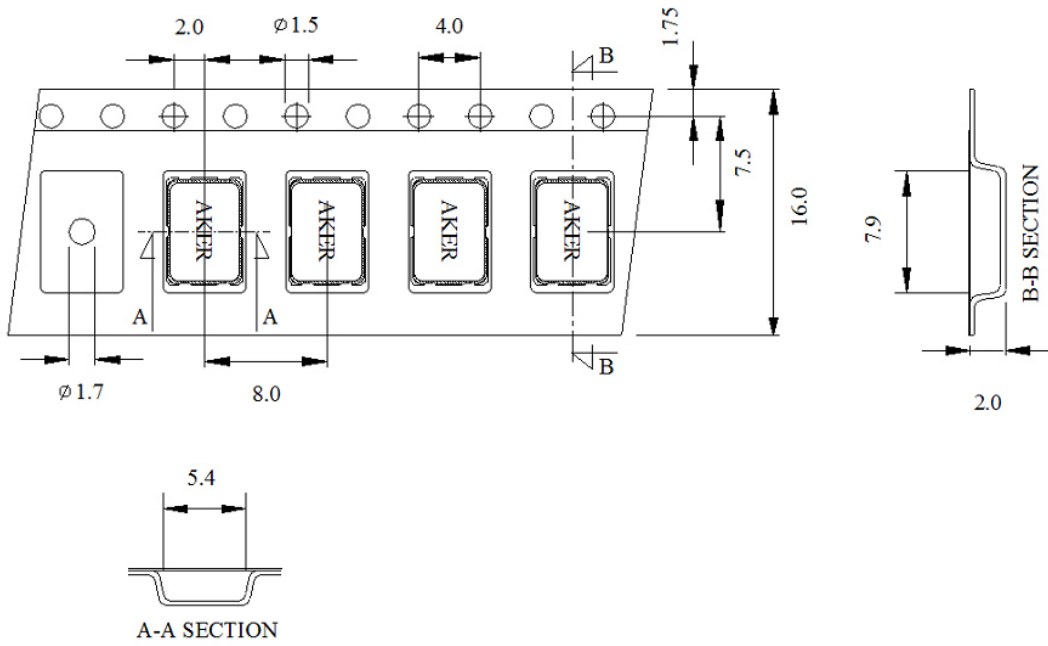
**Part Number: C7S X1 Series**

**Mechanical Outline:**



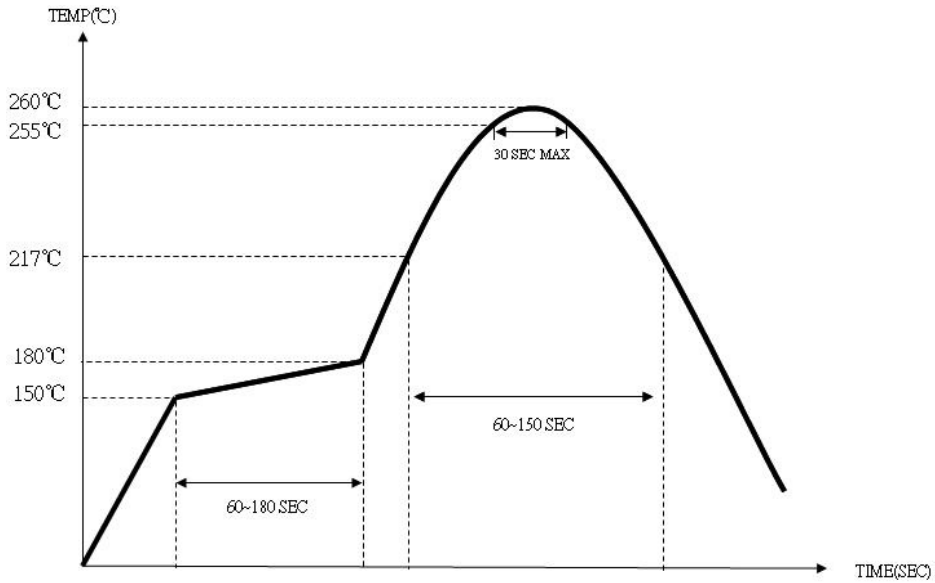
**Package is Seam Sealed Ceramic-Metal.  
Dimensions are millimeters.**

**Carrier Tape Dimensions:**



**Dimensions are millimeters.**

**Solder Reflow Characteristics:**



**How to build a Part Number:**

<b>Series</b>	<b>C</b>	<b>Parameter</b>
<b>Package</b>	<b>7S</b>	<b>5.0 x 7.0 mm</b>
	-	
<b>Frequency</b>	<b>6.000 to 133.000</b>	<b>MHz</b>
	-	
<b>Load Capacitance</b>	<b>10</b>	<b>10 pF</b>
	<b>12</b>	<b>12 pF</b>
	<b>16</b>	<b>16 pF</b>
	<b>18</b>	<b>18 pF</b>
	<b>20</b>	<b>20 pF</b>
	<b>32</b>	<b>32 pF</b>
	<b>S</b>	<b>Series</b>
	-	
<b>Frequency Tolerance</b>	<b>50</b>	<b>±50PPM</b>
<b>Frequency Stability</b>	<b>100</b>	<b>±100PPM</b>
	-	
<b>Mode of Oscillation</b>	<b>See Notes</b>	<b>Fundamental</b>
	<b>3</b>	<b>Third Overtone</b>
	-	
<b>Temperature Range</b>	<b>X1</b>	<b>-40 to +125 °C</b>
	-	
<b>Packaging</b>	<b>R</b>	<b>Tape and Reel</b>

**Part Number Example:**

**C7S-64.000-18-50100-3-X1-R**

**C7S- 5 x 7 mm SMD Seam Seal Package - 4 pad**

**64.000 MHz Nominal Frequency**

**18 pF Load Capacitance**

**50100: ±50 PPM Frequency Tolerance and ±100 PPM Frequency Stability**

**Third Overtone Mode**

**X1: -40 to +125° C Automotive Temperature Range**

**R: Tape and Reel Packaging**

**Notes:**

- 1- Fundamental mode does not need to be included in Part Number description.**
- 2- Product is shipped in Tape and Reel configuration. Each reel contains 1000 pieces.**
- 3- Quantities less than 1000 are shipped bulk in ESD pouches.**
- 4- Specification subject to change without notice.**

Page: 4/4	Date: Dec 28,2018	P/N: <b>C7S X1 Series</b>	
-----------	-------------------	---------------------------	--