

RoHS Compliant  
Pb - Lead Free  
AEC-Q200 Qualified

Ltr	Revisions	Date	Appr

**Electrical Specifications:**

Frequency Range	16.000 to 50.000	MHz
Mode of Oscillation	Fundamental	
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 per Year	±3	PPM Max
Load Capacitance	7 to 32 and Series Resonance	pF
Shunt Capacitance	5.0	
Equivalent Series Resistance (ESR)	See ESR Table	Ohm
Drive Level	100	uW Typ
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
16.000 to 29.999	100	Fundamental
30.000 to 50.000	70	Fundamental



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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

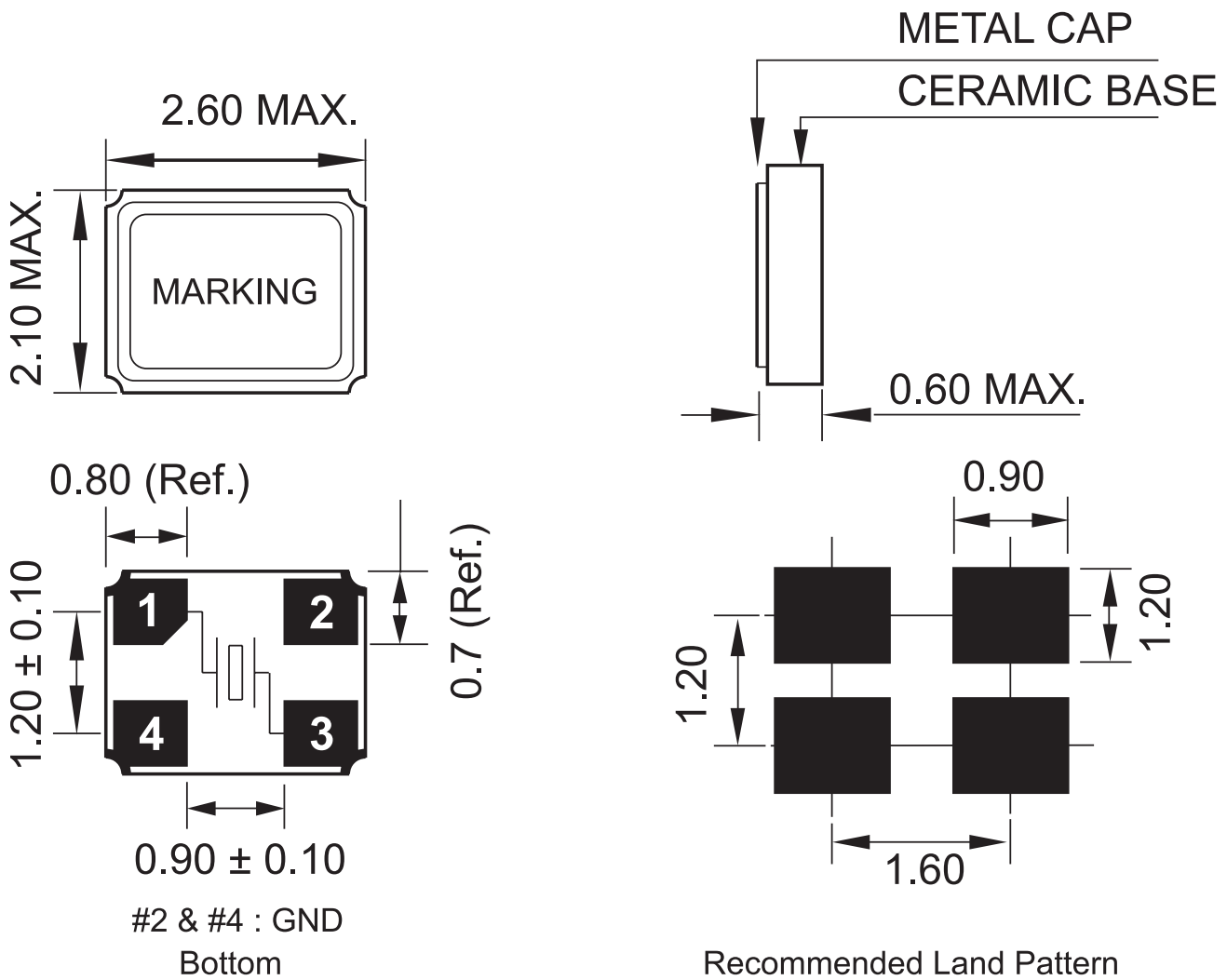
Page: 1/4 Date: April 15, 2008

Specification Title:

**Microprocessor Crystal Unit  
Automotive Temperature Range  
2.0 x 2.5 millimeter Surface Mount  
General Product Specification**

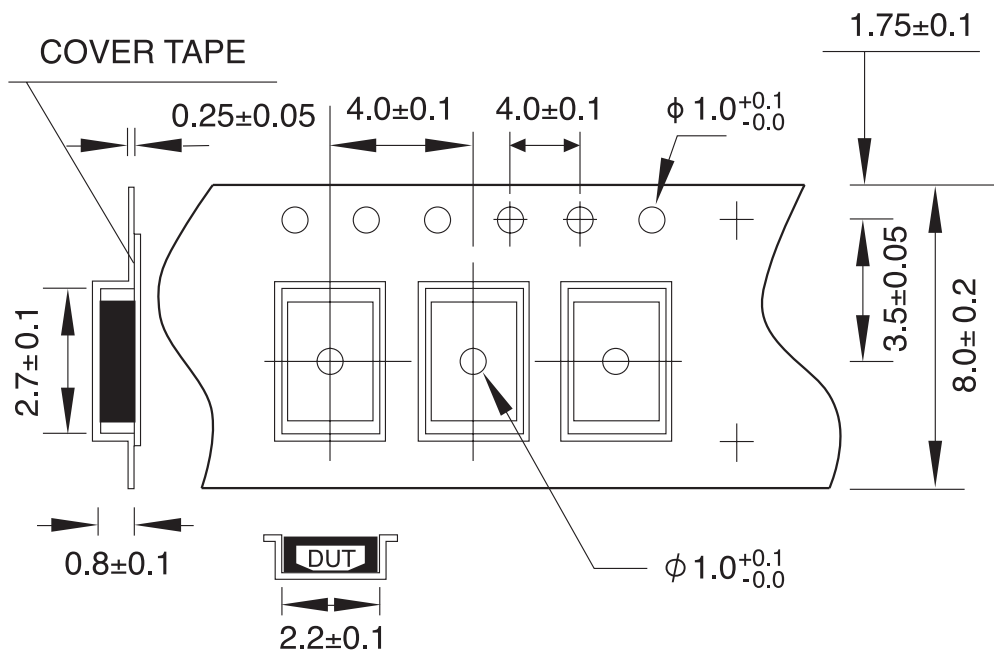
Part Number: **C2E X1 Series**

**Mechanical Outline:**



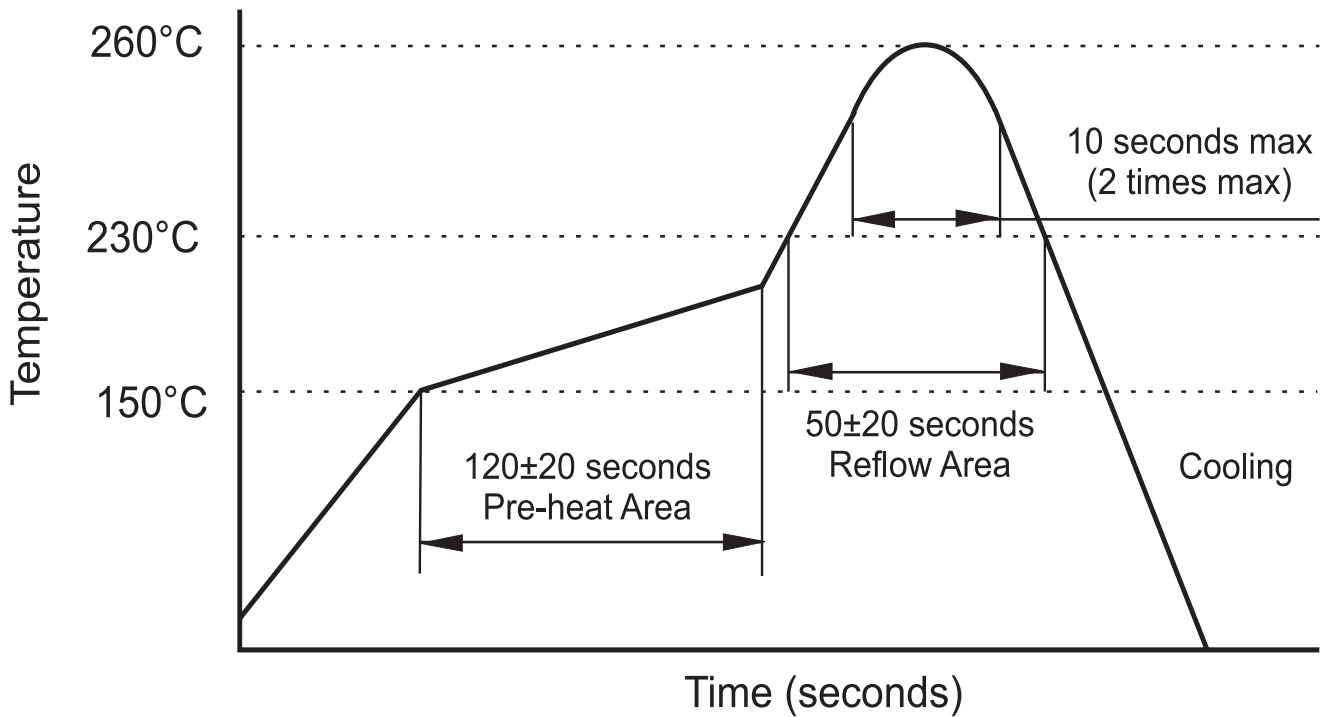
**Package is Seam Sealed Ceramic-Metal.  
Dimensions are millimeters.**

**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>2E</b>	<b>2.0 x 2.5 mm</b>
		-	
<b>Frequency</b>		<b>16.000 to 50.000</b>	<b>MHz</b>
		-	
<b>Load Capacitance</b>		<b>7</b>	<b>7 pF</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>±50 PPM</b>
<b>Frequency Stability</b>		<b>100</b>	<b>±100 PPM</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:**

**C2E-50.000-18-50100-X1-R**

**C2E- 2.0 x 2.5 mm SMD Seam Seal Crystal Unit**

**50.000 MHz Nominal Frequency**

**18 pF Load Capacitance**

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

**Fundamental Mode**

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

**R: Tape and Reel Packaging**

**Notes:**

- 1- Product is shipped in Tape and Reel configuration. Each reel contains 3000 pieces.**
- 2- Quantities less than 3000 are shipped bulk in ESD pouches.**
- 3- Specification subject to change without notice.**