

RoHS Compliant
Pb - Lead Free
AEC-Q200 Qualified

Ltr	Revisions	Date	Appr

Electrical Specifications:

Frequency Range		12.000 to 52.000	MHz
Mode of Oscillation	Fundamental	12.000 to 52.000	
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 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
12.000 to 29.900	100	Fundamental
30.000 to 52.000	50	Fundamental



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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

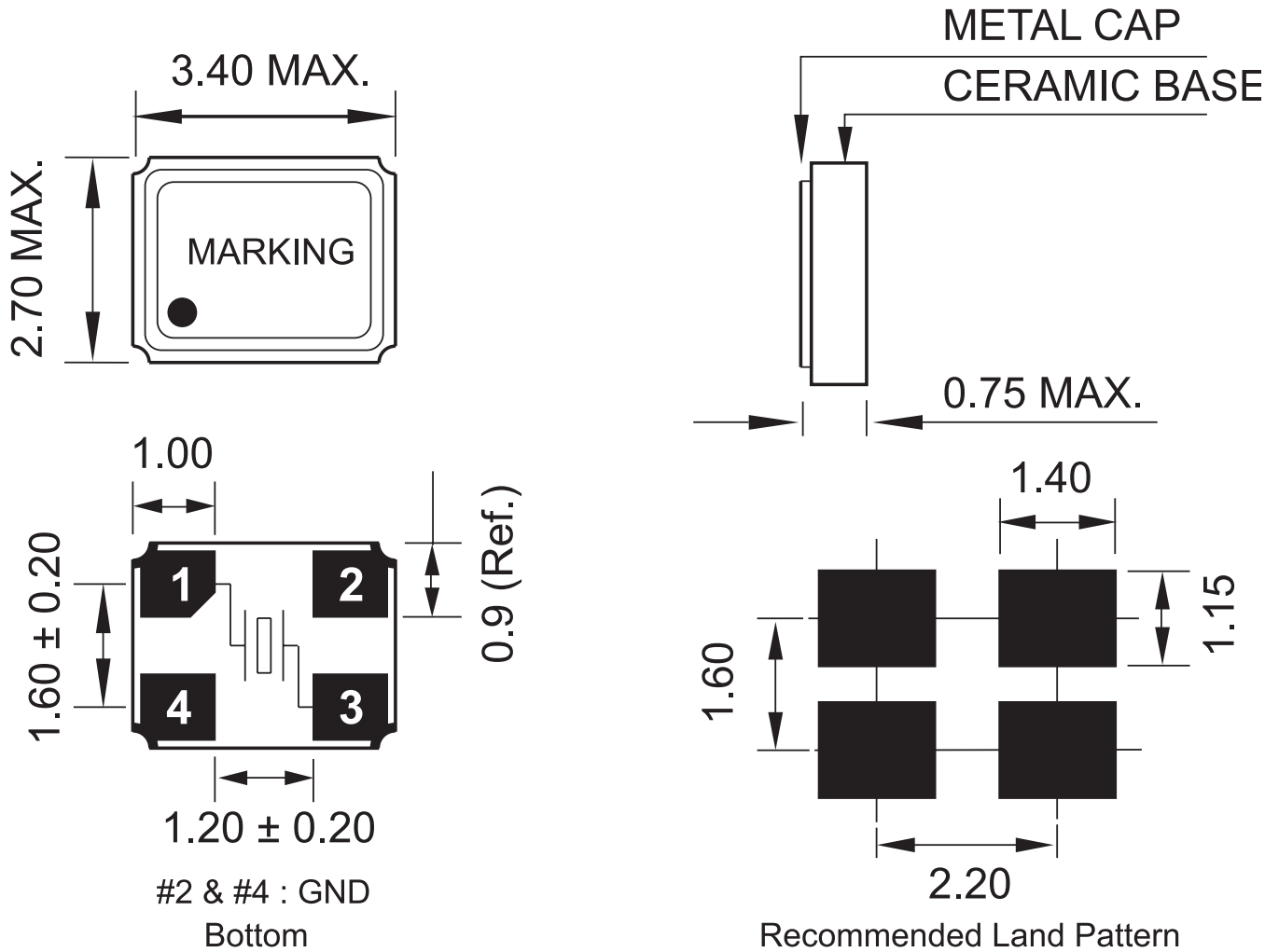
Page: 1/4 Date: April 15, 2008

Specification Title:

Microprocessor Crystal Unit
Automotive Temperature Range
2.5 x 3.2 millimeter Surface Mount
General Product Specification

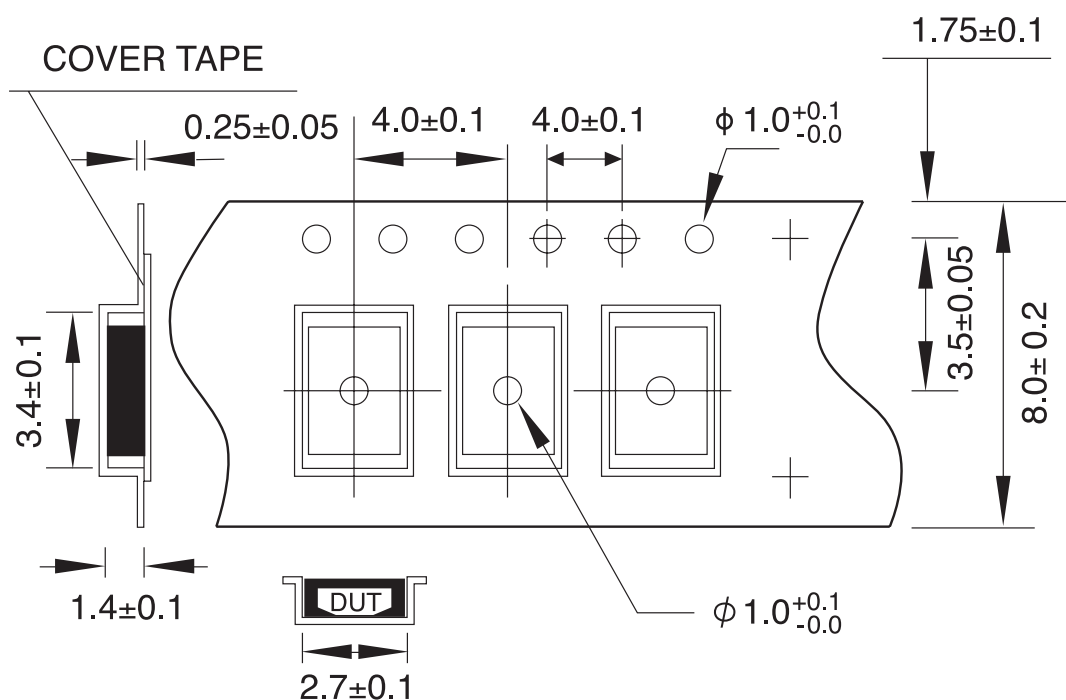
Part Number: **C3E X1 Series**

Mechanical Outline:



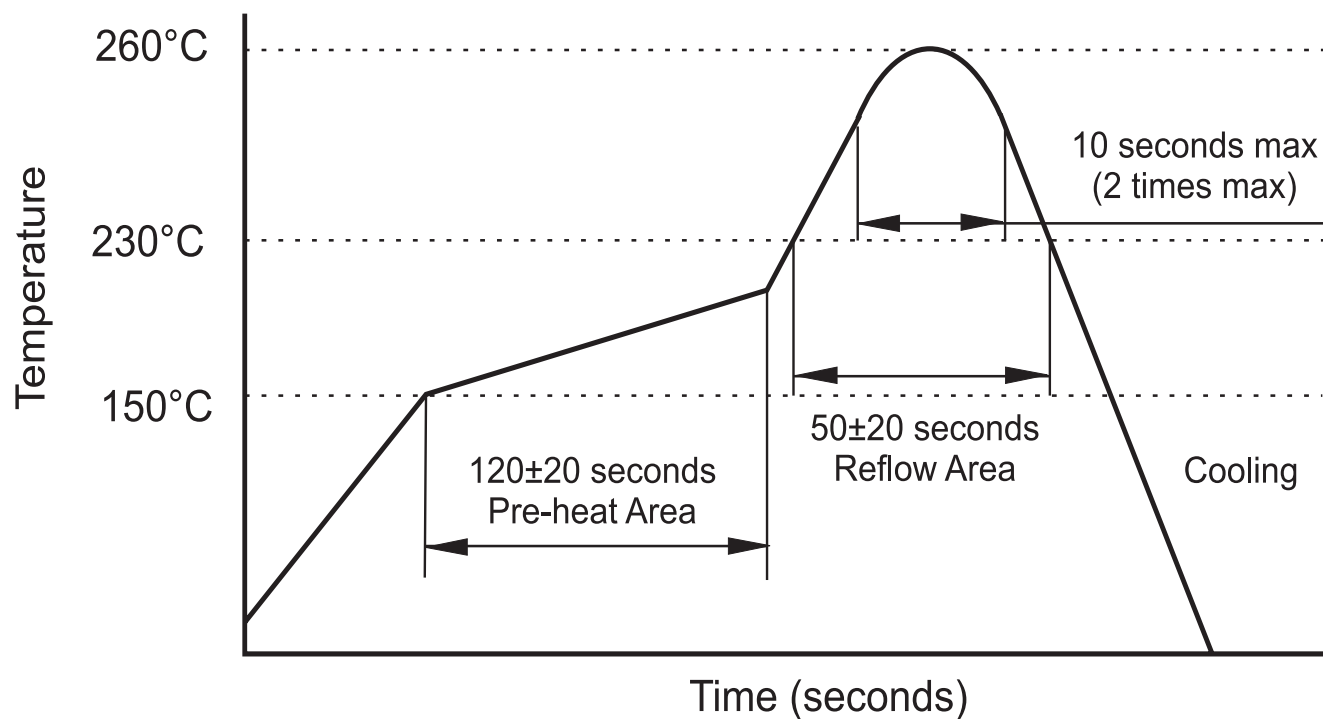
Package is Seam Sealed Ceramic-Metal.
Dimensions are millimeters.

Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



How to build a Part Number:

Series	C	Parameter
Package	3E	3.2 x 2.5 mm
		-
Frequency	12.000 to 52.000	MHz
		-
Load Capacitance	7	7 pF
	10	10 pF
	12	12 pF
	16	16 pF
	18	18 pF
	20	20 pF
	32	32 pF
	S	Series
		-
Frequency Tolerance	50	±50 PPM
Frequency Stability	100	±100 PPM
		-
Temperature Range	X	-40 to +125 °C
		-
Packaging	R	Tape and Reel

Part Number Example:**C3E-32.768-18-50100-X1-R****C3E- 2.5 x 3.2 mm SMD Seam Seal Crystal Unit****32.768 MHz Nominal Frequency****18 pF Load Capacitance****50100: ±50 PPM Frequency Tolerance and ±100 PPM Frequency Stability****Fundamental Mode****X1: -40 to +125° C 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.