

**RoHS Compliant  
Pb - Lead Free**

Ltr	Revisions	Date	Appr

### Electrical Specifications:

Frequency Range		6.000 to 133.000	MHz
Mode of Oscillation	Fundamental	6.000 to 48.000	MHZ
	Third Overtone	40.000 to 133.000	
Frequency Tolerance at 25°C	Standard	±30	PPM Max
	Optional	±25	
		±20	
		±15	
		±10	
Frequency Stability over Temperature Range	Standard	±50	PPM Max
	Optional	±30	
		±25	
		±20	
		±15	
Operating Temperature Range	Standard	-10 to +70	° C
	Extended	-40 to +85	
Storage Temperature Range		-55 to +125	
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	Ohms
Drive Level		100	uW Typ
Insulation Resistance		500 at at 100 Vdc ± 15 Vdc	M Ohms

### Frequency Range and ESR Values:

Frequency Range in MHz	ESR Ohm Max	Mode of Operation
6.000 to 10.000	110	Fundamental
10.100 to 12.000	60	Fundamental
12.100 to 20.000	45	Fundamental
20.100 to 48.000	30	Fundamental
40.000 to 52.000	80	Fundamental
52.100 to 133.000	60	Third Overtone



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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

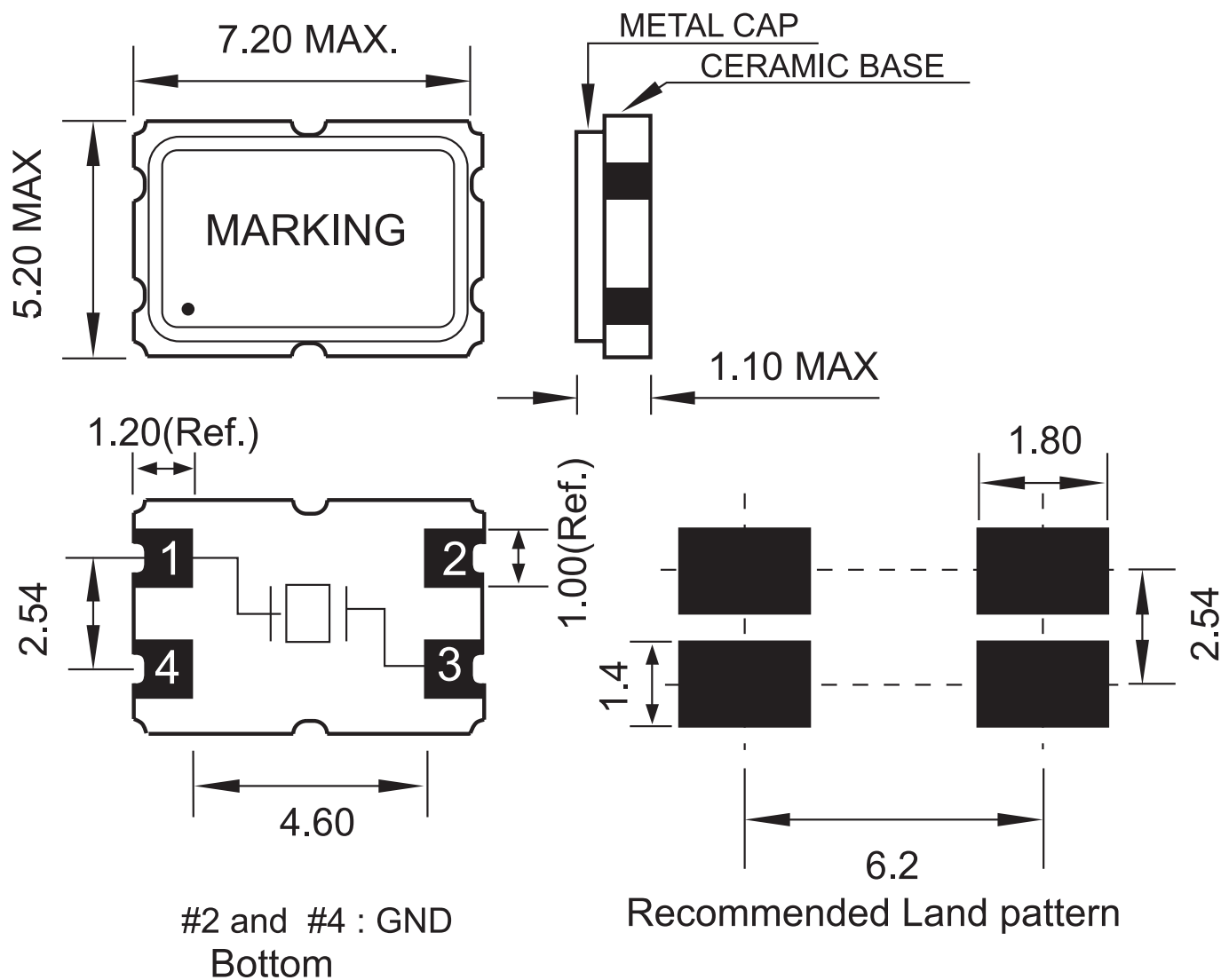
Page: 1/4 Date: April 18, 2006

### Specification Title:

**Microprocessor Crystal Unit  
Low Profile  
5 x 7 millimeter Surface Mount - 4 Pad  
General Product Specification**

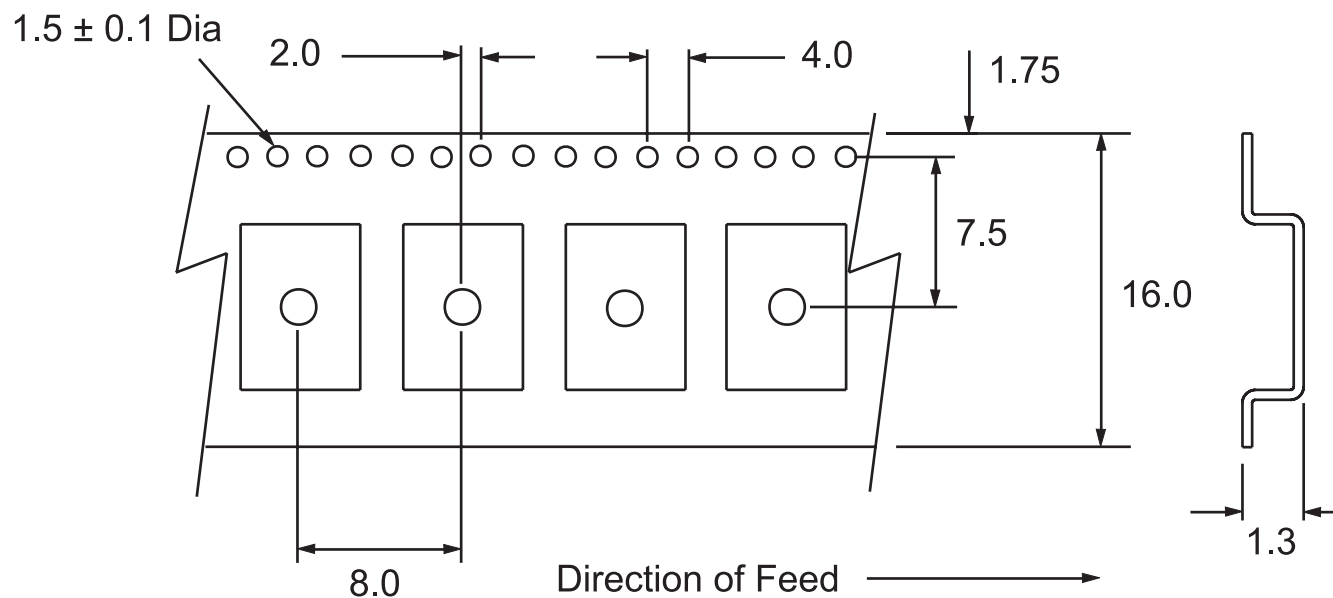
Part Number: **C7S Series**

**Mechanical Outline:**



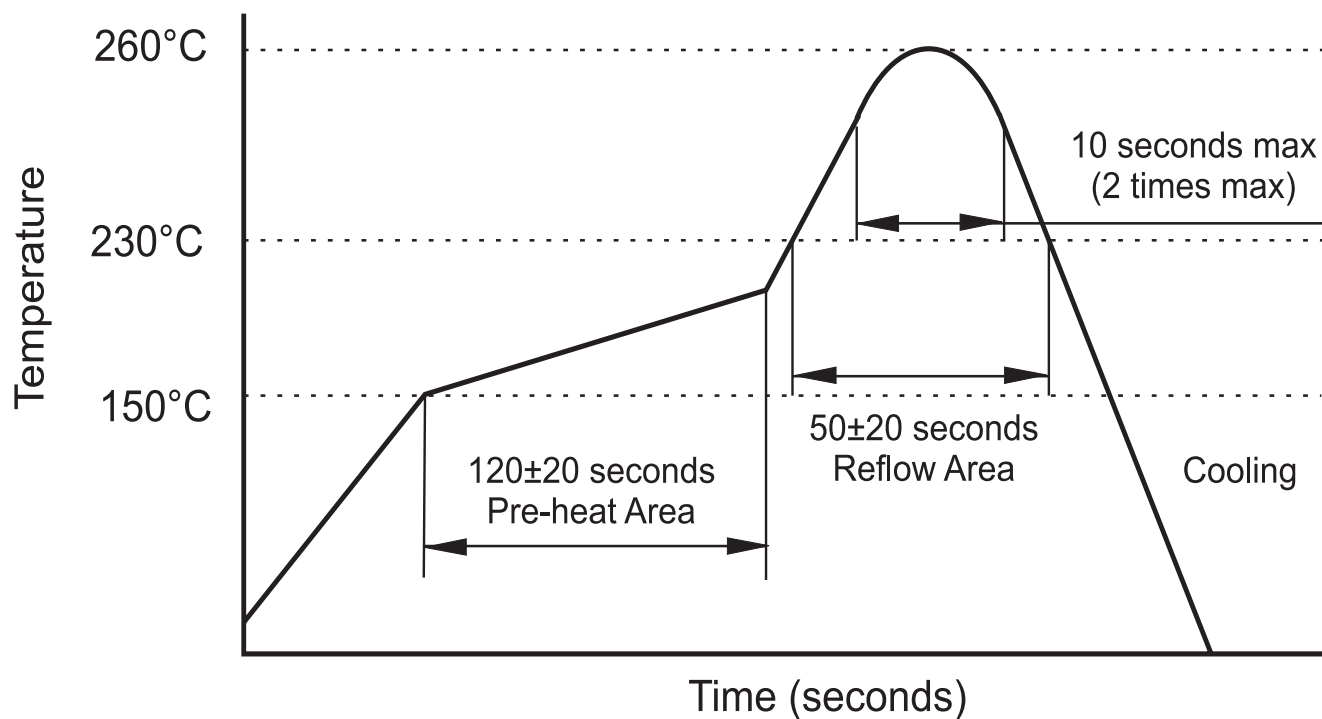
**Package is Seam Sealed Ceramic-Metal.**  
**Dimensions are millimeters.**

### Carrier Tape Dimensions:



Dimensions are millimeters.

### Solder Reflow Characteristics:



### How to build a Part Number:

Series		C	Parameter
Package		7S	5.0 x 7.0 mm
			-
Frequency		6.000 to 133.000	MHz
			-
Load Capacitance		10	10 pF
		12	12 pF
		16	16 pF
		18	18 pF
		20	20 pF
		32	32 pF
		S	Series
			-
Frequency Tolerance	Standard	30	±30 PPM
	Option	25	±25 PPM
		20	±20 PPM
		15	± 15 PPM
		10	±10 PPM
Frequency Stability	Standard	50	±50 PPM
	Option	30	±30 PPM
		25	±25 PPM
		20	±20 PPM
		15	±15 PPM
		10	±10 PPM
			-
Mode of Oscillation		See Notes	Fundamental
		3	Third Overtone
			-
Temperature Range	Standard	See Notes	-10 to +70 °C
	Option	X	-40 to +85 °C
			-
Packaging		R	Tape and Reel

### Part Number Example:

**C7S-64.000-18-3050-3-R**

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

**64.000 MHz Nominal Frequency**

**18 pF Load Capacitance**

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

**Third Overtone Mode**

**-10 to +70° C Temperature Range**

**R: Tape and Reel Packaging**

### Notes:

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