

**RoHS Compliant
Pb - Lead Free**

Ltr	Revisions	Date	Appr

Electrical Specifications:

Nominal Frequency		32.768	KHz
Frequency Tolerance at 25° C	Standard	±20	PPM
	Optional	±100	
Aging per year		±3	
Turnover Temperature		25 ±5	° C
Temperature Coefficient		-0.035 ± 0.008 PPM/Δ °C²	
Temperature Range		-40 to +85	
Temperature Range (Extended)		-40 to +125	
Temperature Range (Storage)		-55 to +140	
Equivalent Series Resistance		90	K Ohm Max
Load Capacitance	Standard	12.5	pF
	Optional	6.0	
		7.0	
		9.0	
Shunt Capacitance		1.4	pF Typ
Motional Capacitance		6.3	fF Typ
Drive Level		0.5	uW Max
Insulation Resistance		500 at 100 Vdc ± 15 Vdc	M Ohm Min
Resistance to Shock		±5 PPM maximum offset from 75 cm drop test in all axes on to a hard surface.	-



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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

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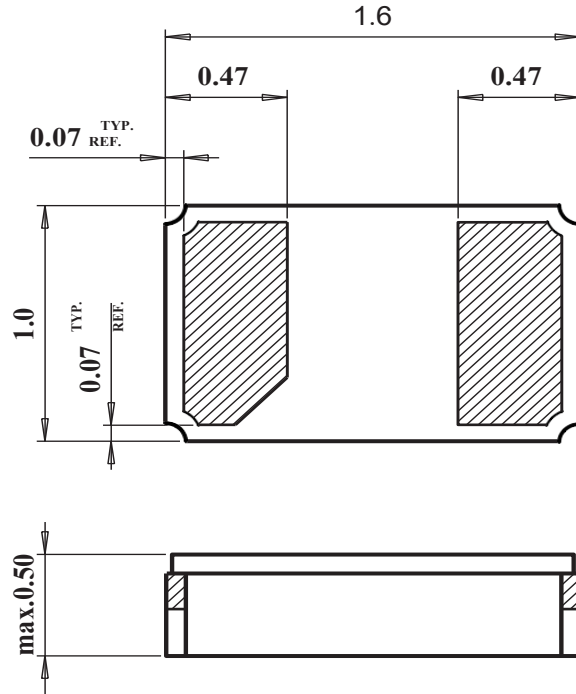
Specification Title:

**Microprocessor Crystal Unit
32.768 KHz (Time of Day)
1.6 x 1.0 millimeter Surface Mount
Ceramic Package
General Product Specification**

Part Number: CTS1 Series

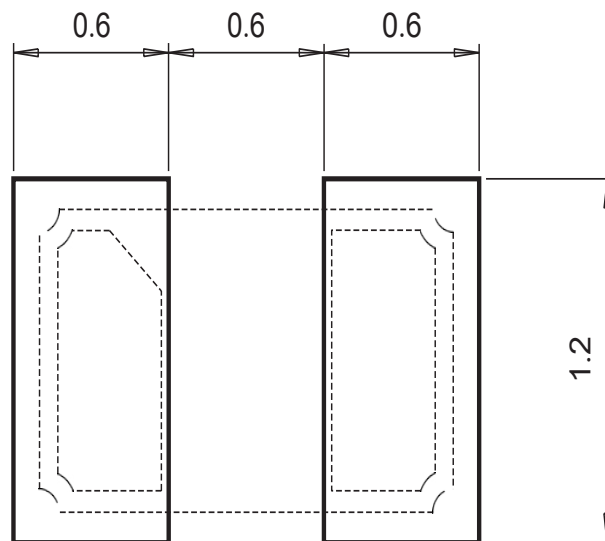
Mechanical Outline:

Tolerances: unless otherwise specified $\pm 0.1\text{mm}$

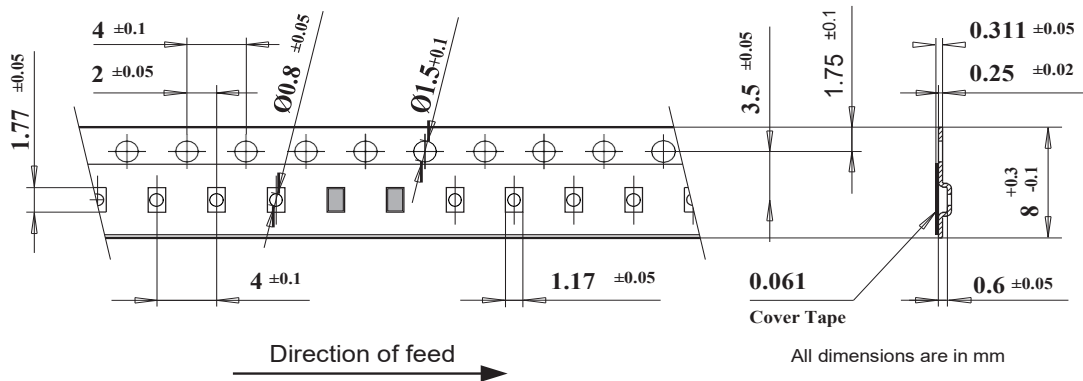


**Package is Ceramic-Metal.
Dimensions are millimeters.**

Solder Pad Layout:

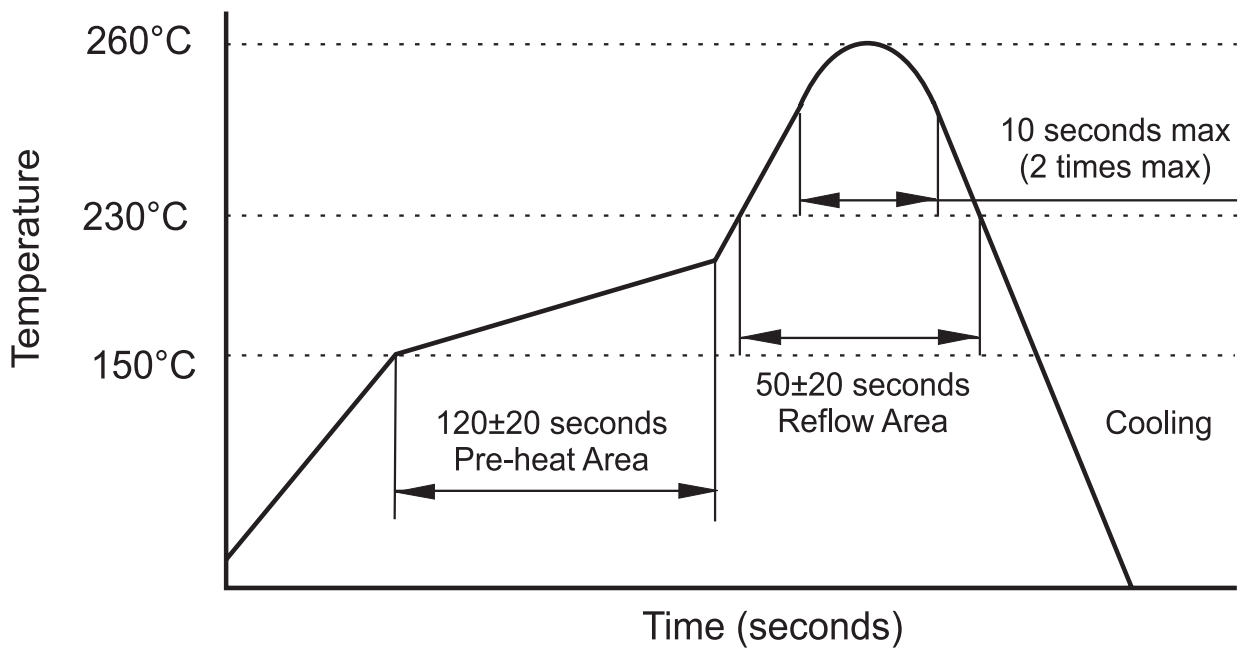


Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



How to build a Part Number:

Series		CTS	Parameter
Package		1	1.6 x 1.0 x 0.5 mm SMD
		-	
Frequency		32.768	KHz
		-	
Load Capacitance	Standard	12.5	12.5 pF
	Option	6	6 pF
		7	7 pF
		9	9 pF
		-	
Frequency Tolerance	Standard	20	±20 PPM
	Optional	100	±100 PPM
		-	
Temperature Range		See Notes	-40 to +85 °C
Temperature Range (Extended)			-40 to +125 °C
		-	
Packaging		R	Tape and Reel

Part Number Example:

CTS1-32.768-12.5-20-R
CTS1: 1.6 x 1.0 mm SMD Crystal Unit
32.768 KHz Nominal Frequency
12.5 pF Load Capacitance
20: ±20 PPM Frequency Tolerance
-40 to +85° C Temperature Range
R: Tape and Reel Packaging 3000pcs per reel

Notes:

- 1- Standard Temperature Range does not need to be included in Part Number description.
- 2- Product is shipped in Tape and Reel configuration. Each reel contains 3000 pieces.
- 3- Specification subject to change without notice.