

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

Electrical Specifications:

Frequency Range		2.000 to 50.000		MHz
Temperature Stability		±100		PPM Max
Aging per Year		±3		
Operating Temperature Range	Standard	-40 to +125		°C
	Extended	-40 to +85		
Storage Temperature Range		-55 to +150		
Supply Voltage		+2.5 ± 5%	+3.3 ± 5%	Vdd
Input Current	2.000 to 10.000 MHz	6	7	mA Max
	10.100 to 20.000 MHz	8	7	
	20.100 to 32.000 MHz	8	12	
	32.100 to 50.000 MHz	20	20	
Output Voltage	Logic High (Voh)	90%		Vdd Min
	Logic Low (Vol)	10%		Vdd Max
Output Symmetry (Duty Cycle)	Standard	40 to 60		%
	Tight	45 to 55		
Output Load		15		pF
Output Level		CMOS		-
Phase Jitter (12 KHz to 20 MHz)		1		ps Max RMS
Rise and Fall Time		7		ns Max
Standby Function		Tri-State		-
Start Up Time		10		ms Max

Temperature stability is Inclusive of all conditions:
 Calibration Tolerance at +25°C, frequency stability over the operating temperature range,
 supply voltage, supply voltage change, output load changes, shock, vibration, and 1st year
 aging at +25°C.



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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

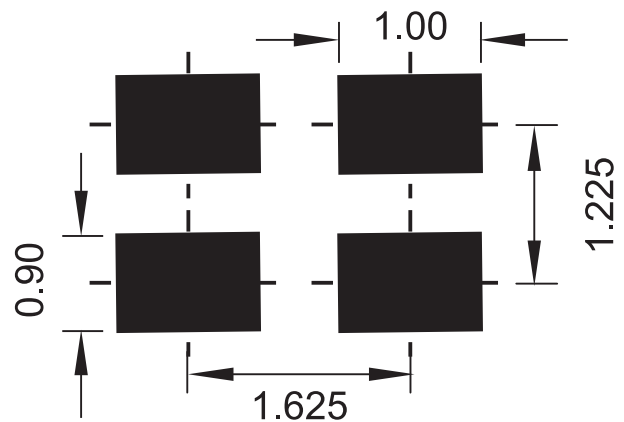
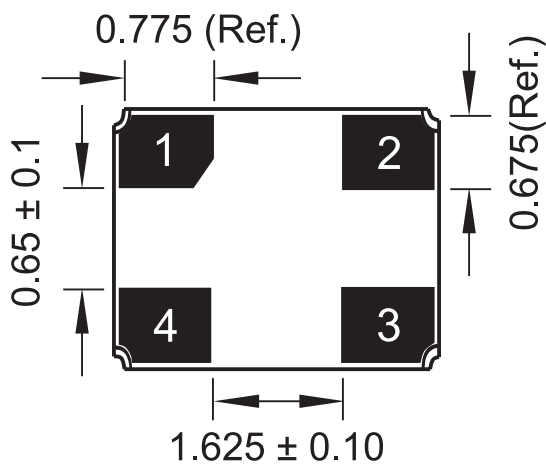
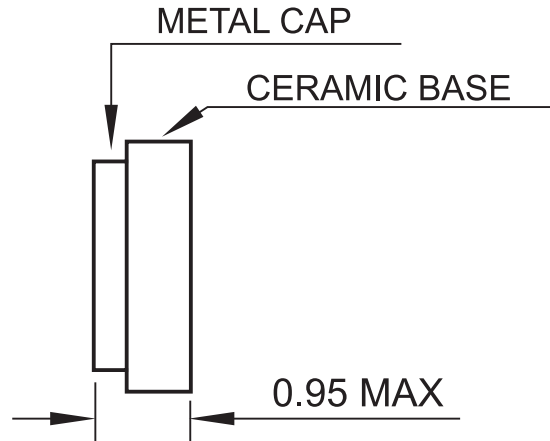
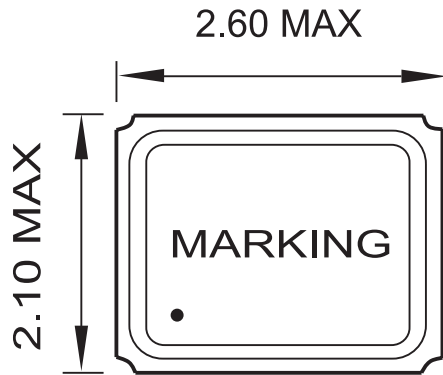
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Specification Title:

Clock Oscillator
Automotive Temperature Range
Ultra Miniature
2.5 x 2.0 millimeter Surface Mount
General Product Specification

Part Number: **S2 X1 Series**

Mechanical Outline:



#1 : E/D #2 : GND
 #4 : VDC #3 : OUTPUT

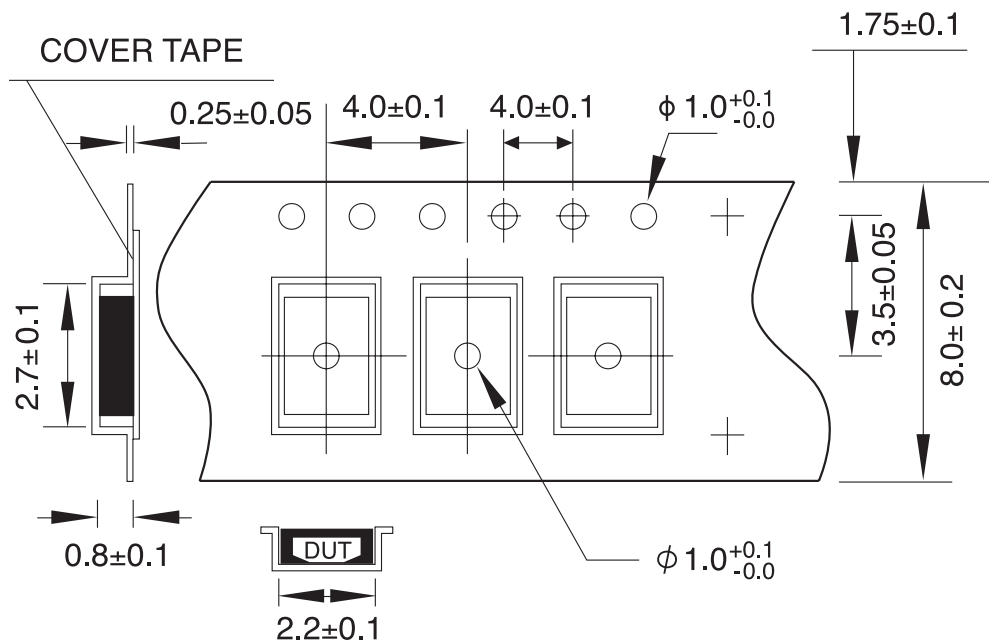
Bottom

Recommended Land Pattern

Pin1	Pin 3
INH	Output
High or Open	Operating
Low	High Impedance

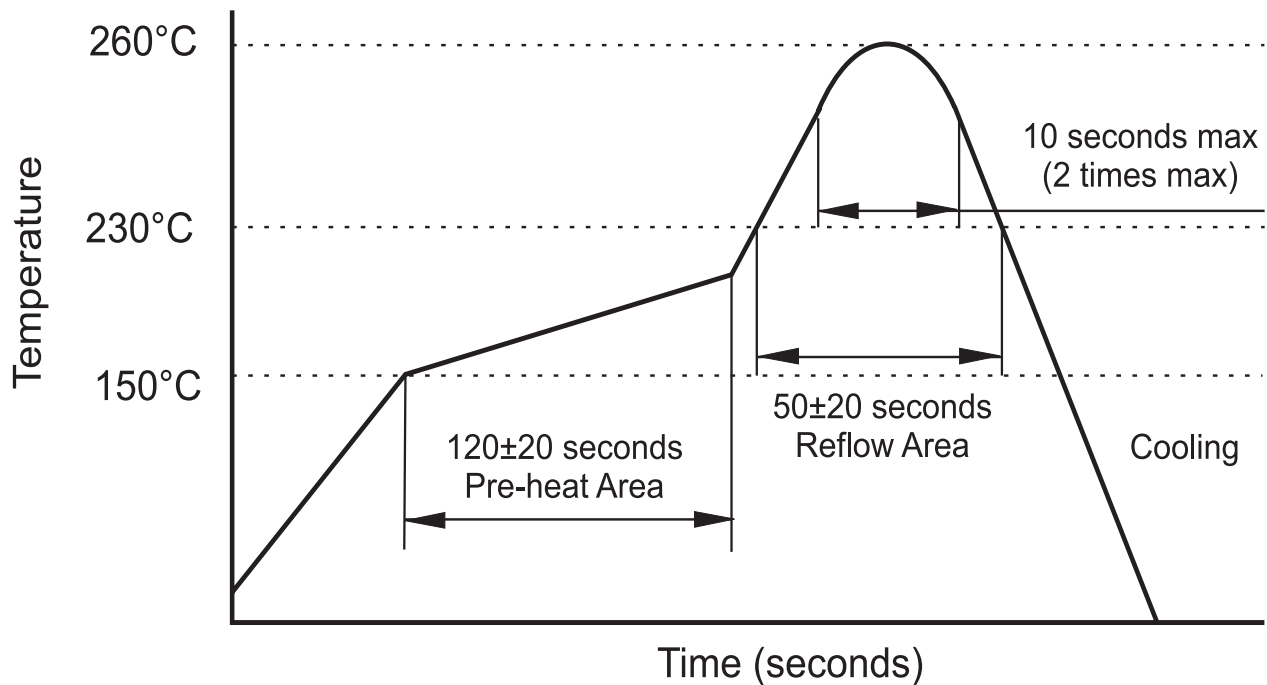
**Package is Seam Sealed Ceramic-Metal.
 Dimensions are millimeters.**

Carrier Tape Dimensions:



Dimensions are millimeters.

Solder Reflow Characteristics:



How to build a Part Number:

Series	S	Parameter
Package	2	2.5 x 2.0 mm
Supply Voltage	33	+3.3 Vdd ± 5%
	25	+2.5 Vdd ± 5%
Temperature Stability	10	±100 PPM
Duty Cycle	See Notes	40/60%
	T	45/55%
Frequency	2.000 to 50.000	MHz
Temperature Range	X1	-40 to +125 °C
Packaging	R	Tape and Reel

Part Number Example:

S22510-48.000-X1-R

S2: 2.0 x 2.5 mm SMD Package

25: +2.5 Vdd Supply Voltage

10: ±100 PPM Temperature Stability

48.000 MHz Nominal Frequency

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

R: Tape and Reel Packaging

Notes:

- 1- Standard Duty Cycle 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.