

<b>RoHS Compliant</b> <b>Pb - Lead Free</b> <b>AEC-Q200 Qualified</b>	Ltr	Revisions	Date	Appr

**Electrical Specifications:**

Frequency Range		0.500 to 156.000					MHz
Temperature Stability		±100					PPM Max
Aging per Year		±3					
Operating Temperature Range	Automotive Range	-40 to +125					°C
Storage Temperature Range		-55 to +150					
Supply Voltage		1.8 ± 5%	2.5 ± 5%	2.85 ± 5%	3.3 ± 10%	5.0 ± 10%	Vdd
Input Current	0.500 to 32.000 MHz	7	8	15	7	25	mA Max
	32.100 to 50.000 MHz	15	20	20	12	30	
	50.100 to 70.000 MHz	15	12	25	25	40	
	70.100 to 80.000 MHz	15	20	30	25	50	
	80.100 to 125.000 MHz	20	25	35	30	60	
	125.100 to 156.000 MHz	25	30	40	40	80	
Output Voltage	Logic High (Voh)	90% (80% at 1.8)					Vdd Min
	Logic Low (Vol)	10% (20% at 1.8)					Vdd Max
Output Symmetry	Standard	40 to 60					%
	Tight	45 to 55					
Output Load			15				pF Max HCMOS
			30				
			50				
Rise and Fall Time	1.000 to 32.000 MHz	5	5	6	10	10	ns Max
	32.100 to 50.000 MHz	5	5	6	10	5	
	50.100 to 70.000 MHz	4	4	4	6	5	
	70.100 to 80.000 MHz	4	4	4	5	5	
	80.100 to 125.000 MHz	3	3	4	5	4	
	125.100 to 155.520 MHz	3	3	3	4	4	
Phase Jitter (12 KHz to 20 MHz)		1					ps Max RMS
Enable-Disable Function		Tri-State					-
Output Disable Time		300	150				ns Max
Output Enable Time		10	10				ms Max
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: MK

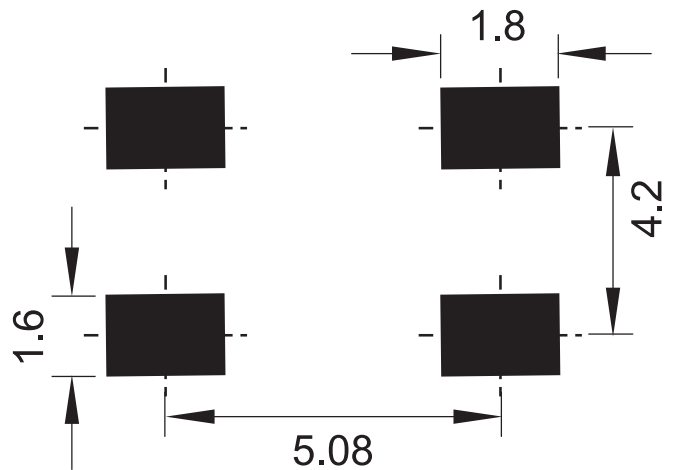
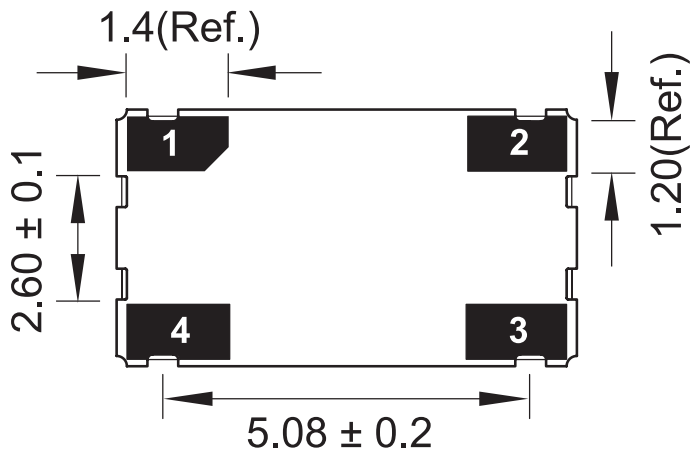
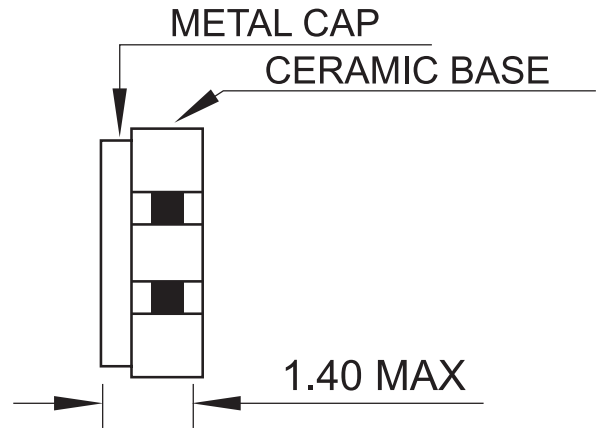
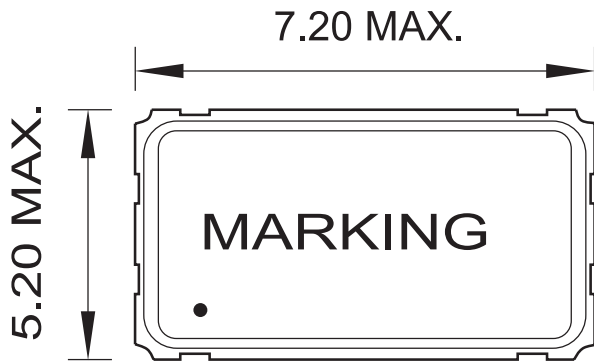
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Specification Title:

**Clock Oscillator**  
**Automotive Temperature Range**  
**7.0 x 5.0 millimeter Surface Mount**  
**General Product Specification**

Part Number: **S7 X1 Series**

**Mechanical Outline:**



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

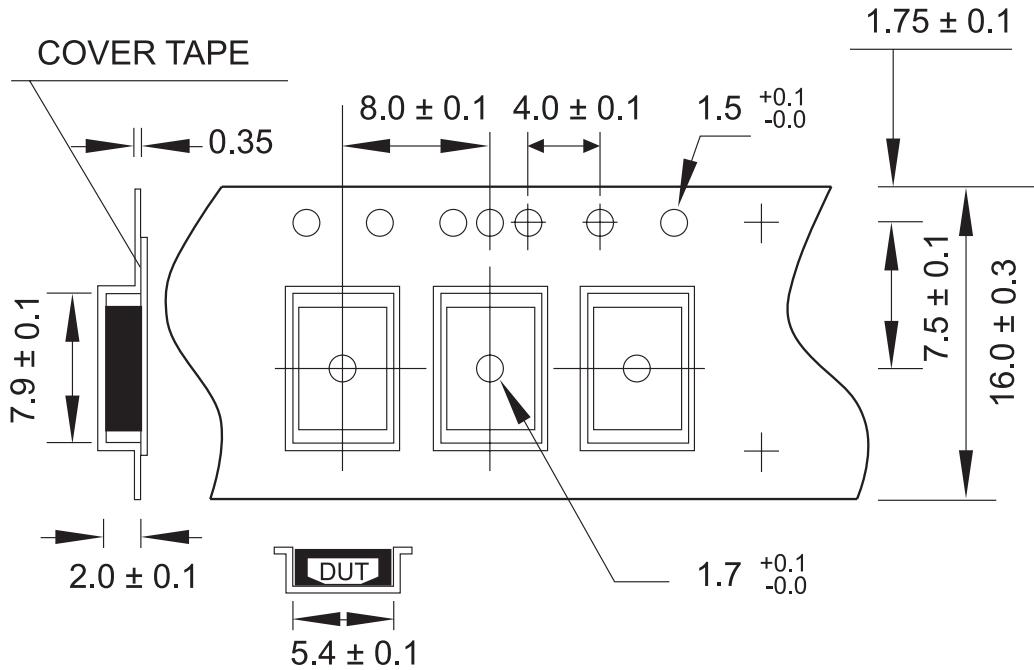
Bottom

Recommended Land Pattern

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

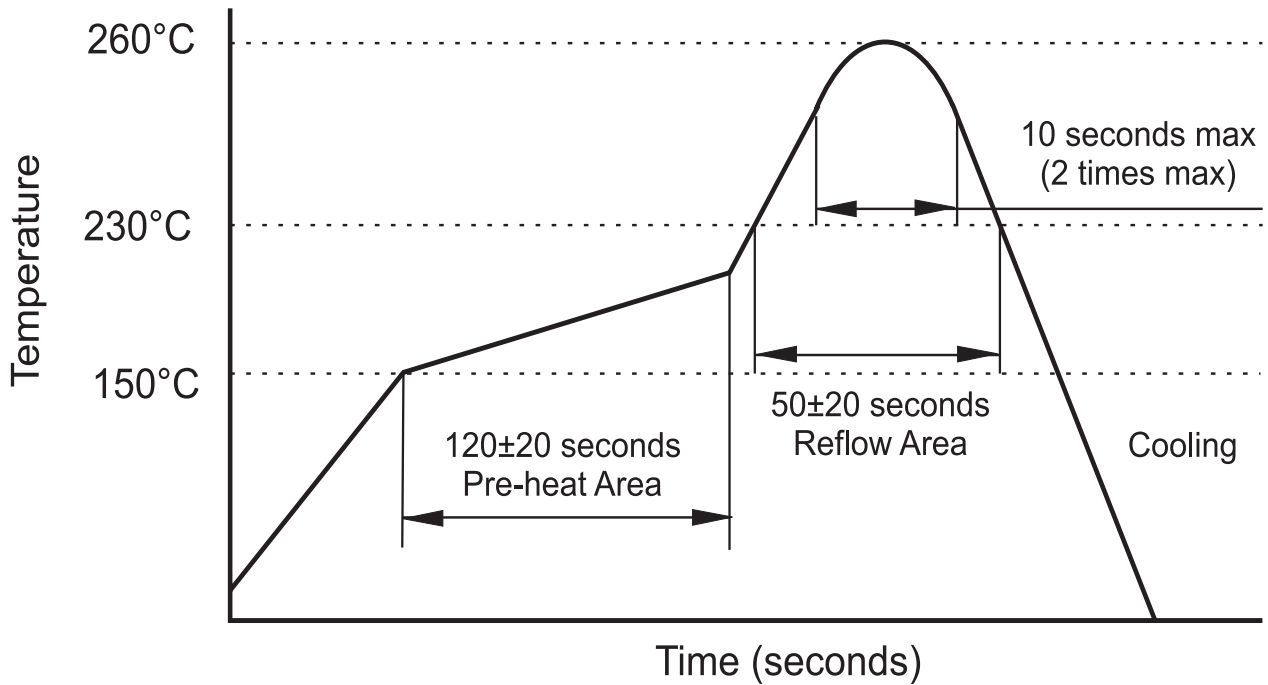
**Package is Seam Sealed Ceramic-Metal.  
 Dimensions are millimeters.**

**Carrier Tape Dimensions:**



**Dimensions are millimeters.**

**Solder Reflow Characteristics:**



## How to build a Part Number:

Series	S	Parameter
Package	7	7.0 x 5.0 mm
Supply Voltage	50	+5.0 Vdd ± 10%
	33	+3.3 Vdd ± 10%
	28	+2.8 Vdd ± 5%
	25	+2.5 Vdd ± 5%
	18	+1.8 Vdd ± 5%
Temperature Stability	10	±100 PPM
Duty Cycle	See Notes	40 / 60 %
	T	45 / 55 %
Frequency	0.500 to 156.000	MHz
Temperature Range	X1	-40 to +125 °C
Output Load	15	pF Max HCMOS
	30	
	50	
Packaging	R	Tape and Reel

### Part Number Example:

**S73310-50.000-X1-15-R**

**S7: 7.0 x 5.0 mm SMD Package**

**33: +3.3 Vdd Supply Voltage**

**10: ±100 PPM Temperature Stability**

**50.000 MHz Nominal Frequency**

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

**15: 15 pF Max HCMOS Output Load**

**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.