

RoHS Compliant  
Pb - Lead Free

Ltr	Revisions	Date	Appr

**Electrical Specifications:**

Frequency Range		2.000 to 50.000			MHz
Temperature Stability		±100			PPM Max
		±50			
		±25			
Aging per Year		±3			
Operating Temperature Range	Standard	-10 to +70			°C
	Extended	-40 to +85			
Storage Temperature Range		-55 to +125			
Supply Voltage		+1.8 ± 5%	+2.5 ± 5%	+3.3 ± 10%	Vdd
Input Current	2.000 to 10.000 MHz	3	6	7	mA Max
	10.100 to 20.000 MHz	5	8	7	
	20.100 to 32.000 MHz	5	8	12	
	32.100 to 50.000 MHz	10	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, vilbration, and 1st year aging at +25°C.



Accurate Kinetic Energy

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All dimensions are millimeters.

CAD: TCR

Review: EG

Appr: JL

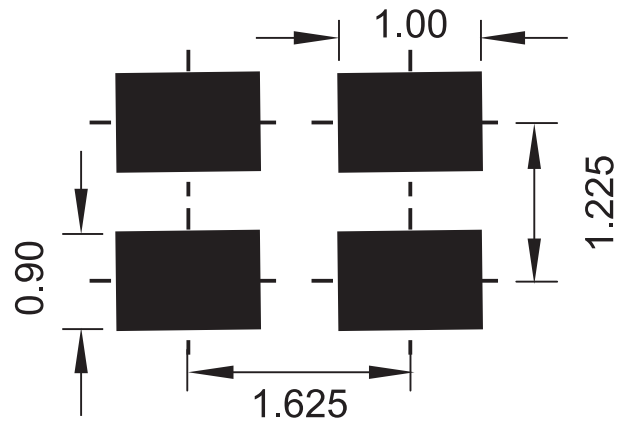
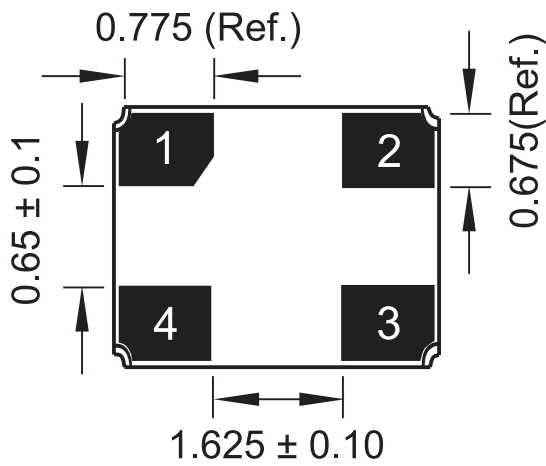
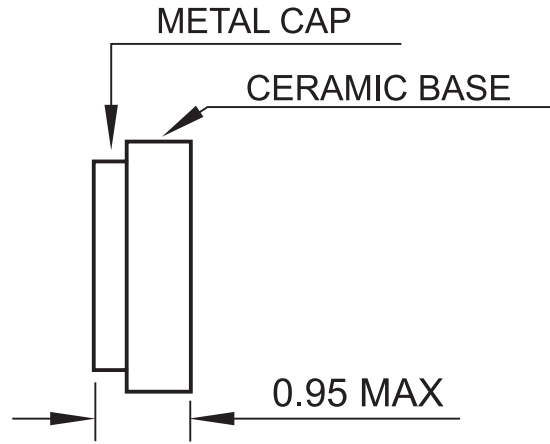
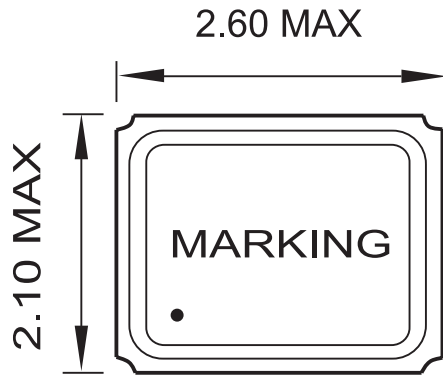
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Specification Title:

**Clock Oscillator  
Ultra Miniature  
2.0 x 2.5 millimeter Surface Mount  
General Product Specification**

Part Number: **S2 Series**

**Mechanical Outline:**



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

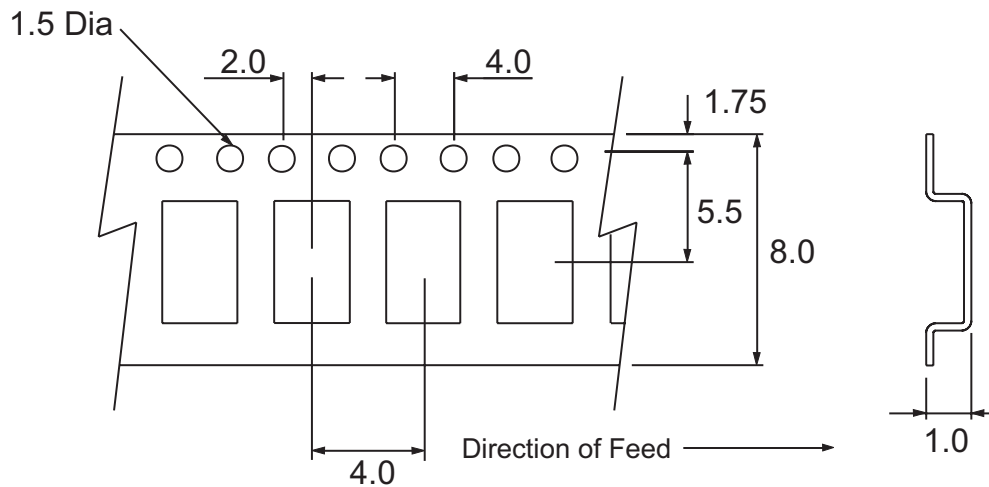
Bottom

Recommended Land Pattern

<b>Pin1</b>	<b>Pin 3</b>
<b>INH</b>	<b>Output</b>
<b>High or Open</b>	<b>Operating</b>
<b>Low</b>	<b>High Impedance</b>

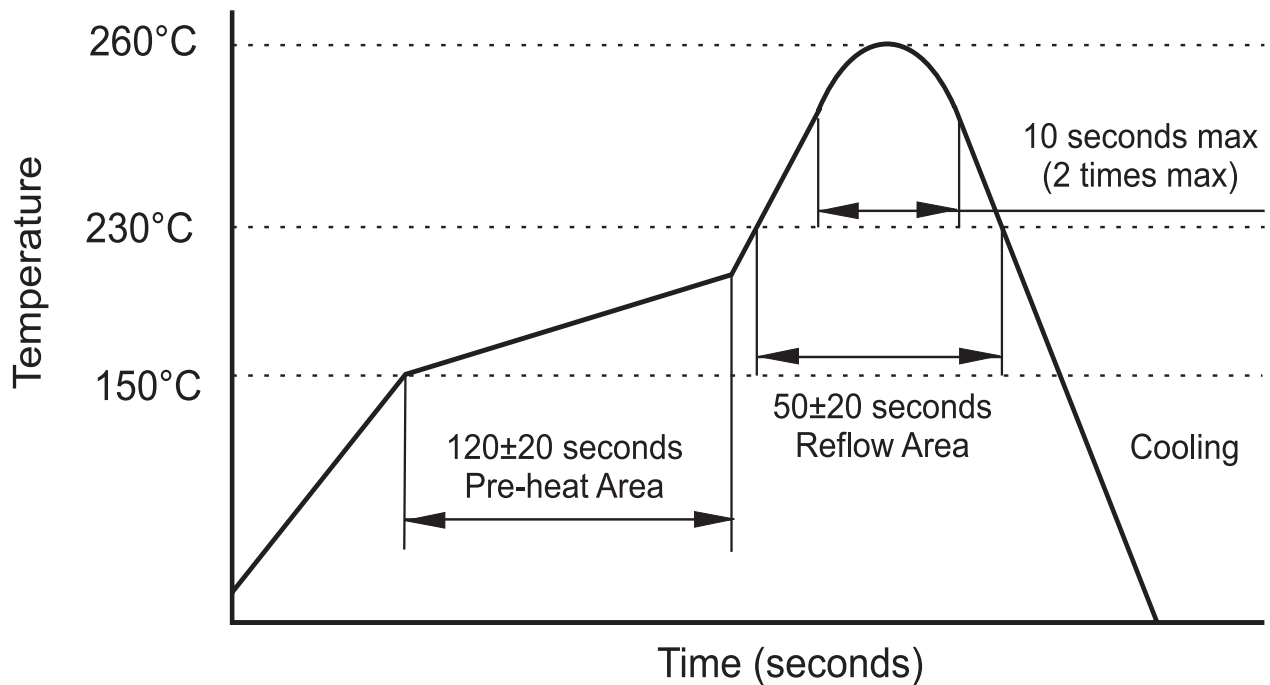
**Package is Seam Sealed Ceramic-Metal.  
 Dimensions are millimeters.**

### Carrier Tape Dimensions:



Dimensions are millimeters.

### Solder Reflow Characteristics:



## How to build a Part Number:

Series	S	Parameter
Package	2	2.0 x 2.5 mm
Supply Voltage	33	+3.3 Vdd ± 10%
	25	+2.5 Vdd ± 5%
	18	+1.8 Vdd ± 5%
Temperature Stability	10	±100 PPM
	05	±50 PPM
	025	±25 PPM
Duty Cycle	See Notes	40 to 60%
	T	45 to 55%
Frequency	2.000 to 50.000	MHz
Temperature Range	See Notes	-10 to +70 °C
	X	-40 to +85 °C
Packaging	R	Tape and Reel

## Part Number Example:

**S22505-48.000-X-R**

**S2: 2.0 x 2.5 mm SMD Package**

**25: +2.5 Vdd Supply Voltage**

**05: ±50 PPM Temperature Stability**

**48.000 MHz Nominal Frequency**

**X: -40 to + 85° C Extended Temperature Range**

**R: Tape and Reel Packaging**

## Notes:

1- Standard Duty Cycle and Temperature Range do not need to be included in Part Number description.

2- Product is shipped in Tape and Reel configuration. Each reel contains 1000 pieces.

3- Specification subject to change without notice.