

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			
		±30			
		±25			
		±20			
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	1.000 to 10.000 MHz	5	6	7	mA Max
	10.100 to 20.000 MHz	6	8	7	
	20.100 to 32.000 MHz	6	8	12	
	32.100 to 50.000 MHz	15	20	20	
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 Level		CMOS			-
Output Load		15			pF Max
Rise and Fall Time	1.000 to 10.000 MHz	7	5	5	ns Max
	10.100 to 20.000 MHz	7	5	5	
	20.100 to 32.000 MHz	6	5	5	
	32.100 to 50.000 MHz	6	5	5	
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	5		ms Max
Start Up Time		5 (10 at 1.8 Vdd)			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

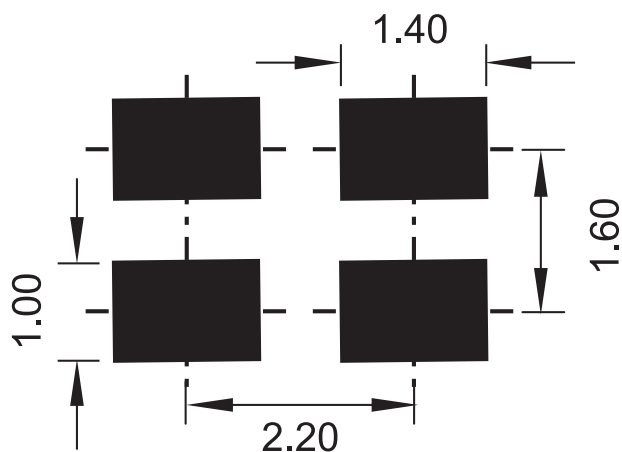
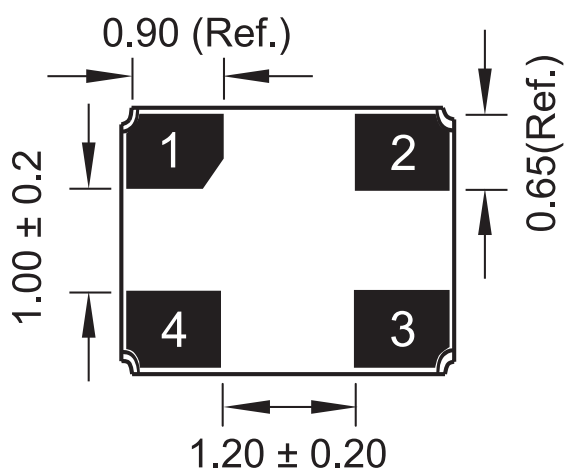
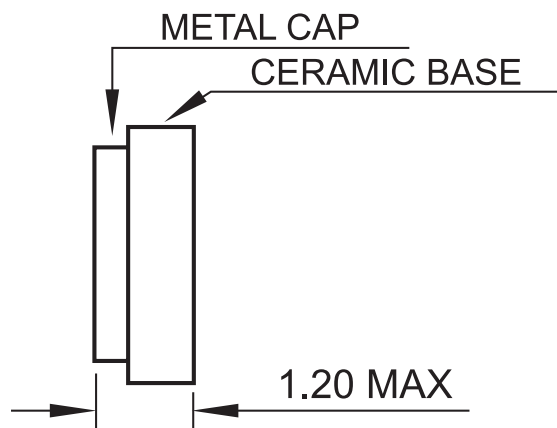
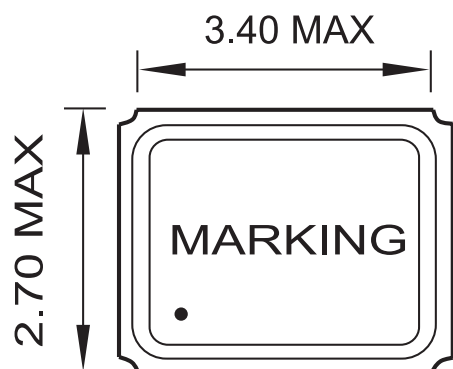
Page: 1/4 Date: Feb 7, 2008

Specification Title:

**Clock Oscillator**  
**Miniature - Low Profile**  
**3.2 x 2.5 millimeter Surface Mount**  
**General Product Specification**

Part Number: **S3 Series**

## Mechanical Outline:



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

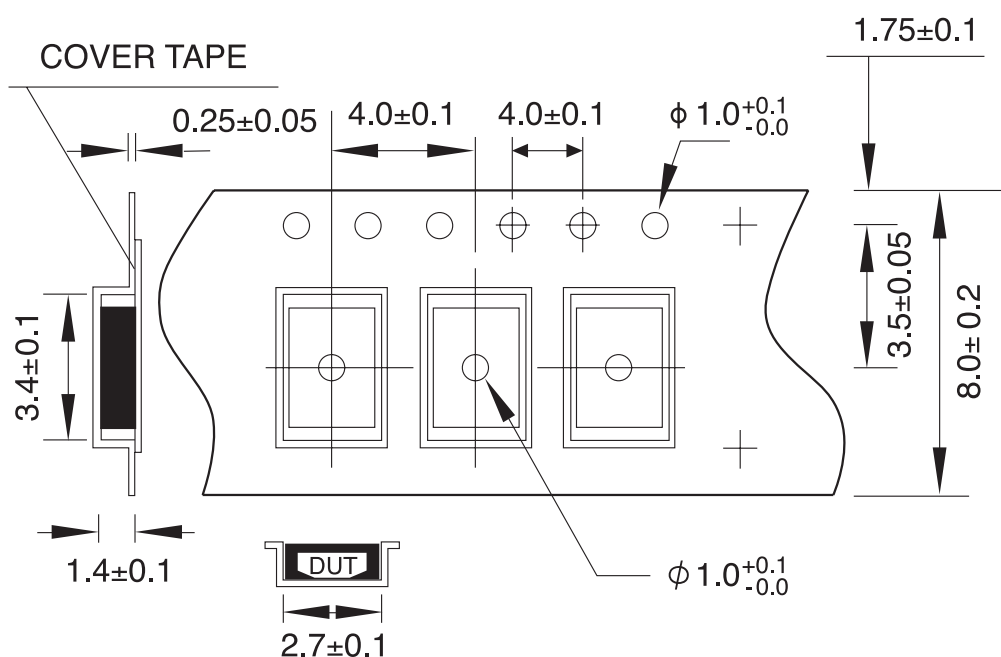
Bottom

Recommended Land Pattern

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

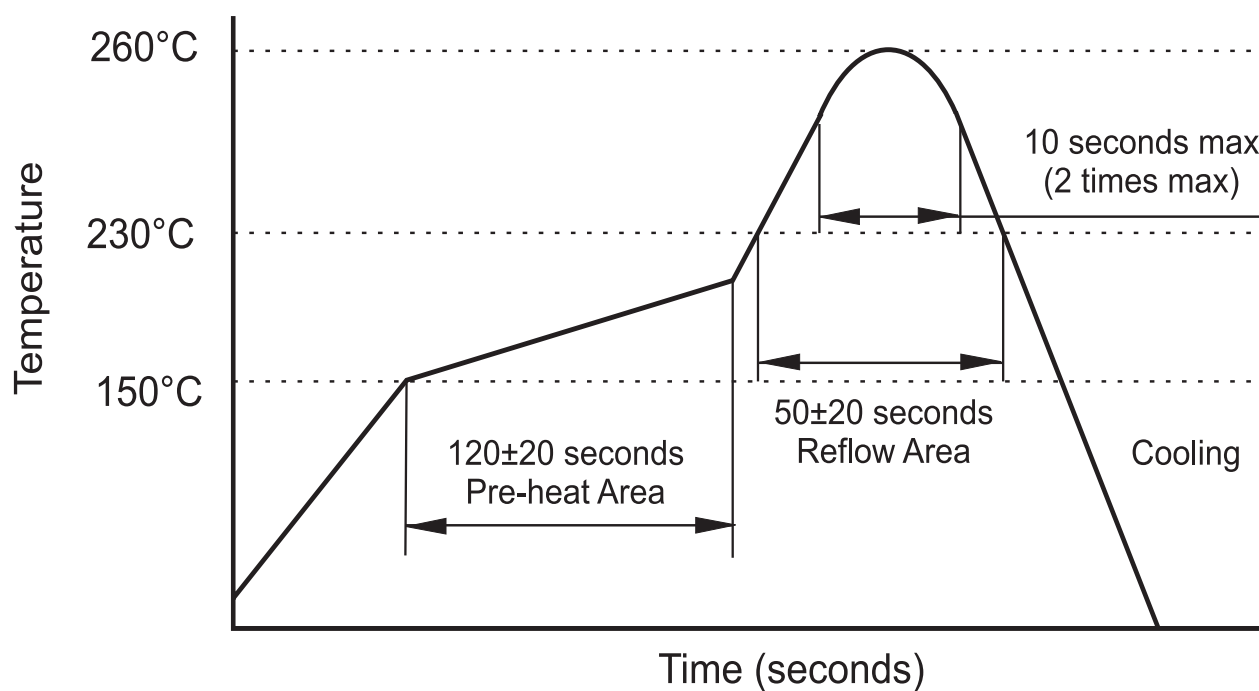
**Package is Seam Sealed Ceramic-Metal.**  
**Dimensions are millimeters.**

### Carrier Tape Dimensions:



**Dimensions are millimeters.**

### Solder Reflow Characteristics:



### How to build a Part Number:

Series	S	Parameter
Package	3	2.5 x 3.2 mm
Supply Voltage	33	+3.3 Vdd $\pm$ 10%
	25	+2.5 Vdd $\pm$ 5%
	18	+1.8 Vdd $\pm$ 5%
Temperature Stability	10	$\pm$ 100 PPM
	05	$\pm$ 50 PPM
	03	$\pm$ 30 PPM
	02	$\pm$ 20 PPM
Duty Cycle	See Notes	40 / 60 %
	T	45 / 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:

**S31805T-50.000-X-R**

**S3: 2.5 x 3.2 mm SMD Package**

**18: +1.8  $\pm$  5% Vdd Supply Voltage**

**05:  $\pm$ 50 PPM Temperature Stability**

**T: Tight Symmetry - 45 /55 %**

**50.000 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- Quantities less than 1000 are shipped bulk in ESD pouches.
- 4- Specification subject to change without notice.

Page: 4/4	Date: Feb 7, 2008	P/N: S3 Series	
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