

# PSE Technology Corporation

## SPECIFICATION FOR APPROVAL

CUSTOMER	
NOMINAL FREQUENCY	<b>20.000000 MHz</b>
PRODUCT TYPE	<b>TYPE GC 49S SMD QUARTZ CRYSTAL</b>
PART NUMBER	<b>GC2000039</b>
CUSTOMER P/N	
ISSUE DATE	<b>October 30, 2013</b>
VERSION	<b>A</b>

APPROVED	PREPARED	QA
<i>Brenda</i>	<i>Nikhi Lu</i>	<i>Beddy</i>
APPROVED BY CUSTOMER		
Please return one copy with approval to PSE-TW		

### PSE Technology Corporation

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- \*RoHS Compliant
- \*HF-Halogen Free
- \*REACH Compliant

**A Company of PERICOM Semiconductor Corporation**

**TYPE GC 49S SMD QUARTZ CRYSTAL**

**GC2000039**

VER.A 30-OCT-13

**VERSION HISTORY**

Version No.	Version Date	Customer Receipt Date	Supplier Receipt Date	Description	Notes
A	Oct. 30, 2013			Initial Release	

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### ELECTRICAL SPECIFICATIONS

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	20.000000	MHz	
Mode of Oscillation	MO	AT Cut-Fundamental		
Calibration Load Capacitance	CL	16	pF	
Calibration Tolerance	FL	± 30	ppm	at 25°C±3°C
Operating Temperature Range	TR	-20 to +70	°C	
Frequency Stability(Frequency Deviation over the Operating Temperature Range)	F/T	± 30	ppm	Reference to the Frequency at 25°C
Operating Drive Level		100	μW	
Maximum Drive Level		500	μW	
Equivalent Series Resistance	ESR	30	Ω	Max.
MaxRR-MinRR at Drive Level Dependency Sweep	DLD2	10	Ω	Max.
MaxRR at Drive Level Dependency Sweep	RLD2	30	Ω	Max.
MaxFR-MinFR at Drive Level dependency Sweep	FDDL	10	ppm	Max.
Shunt Capacitance	C0	7	pF	Max.
Aging at 25°C		± 5	ppm	Max, 1st year
Storage Temperature		-55 to +125	°C	
Insulation Resistance		500	MΩ	Min

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## RELIABILITY SPECIFICATIONS

### MECHANICAL AND ENVIRONMENTAL RATINGS:

- a) FINE LEAK TEST: JESD22-A109 (Condition 1A)
- b) GROSS LEAK TEST: JESD22-A109 (Condition C)
- c) MOISTURE RESISTANCE: JESD22-A113
- d) SHOCK: JESD22-B104 (Condition B)
- e) SOLDERABILITY : (RoHS version): J-STD-002
- f) VIBRATION: JESD22-B103
- g) SOLVENT RESISTANCE: JESD22-B107
- h) RESISTANCE TO SOLDERING HEAT (RoHS version): J-STD-020D Table 5.2 Pb free devices (3 cycles max)

## SUGGESTED IR REFLOW PROFILE

\*As per IPC-JEDEC J-STD-020D



Note:

	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

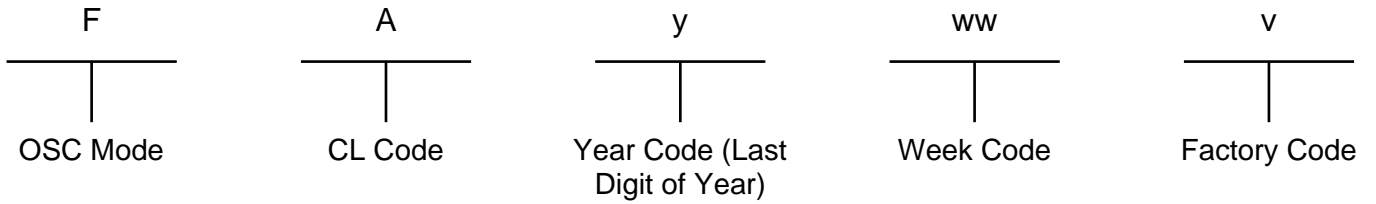
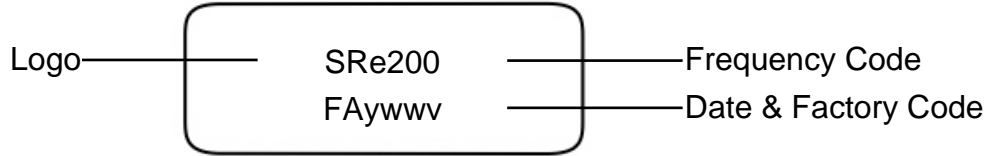
For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow.pdf>

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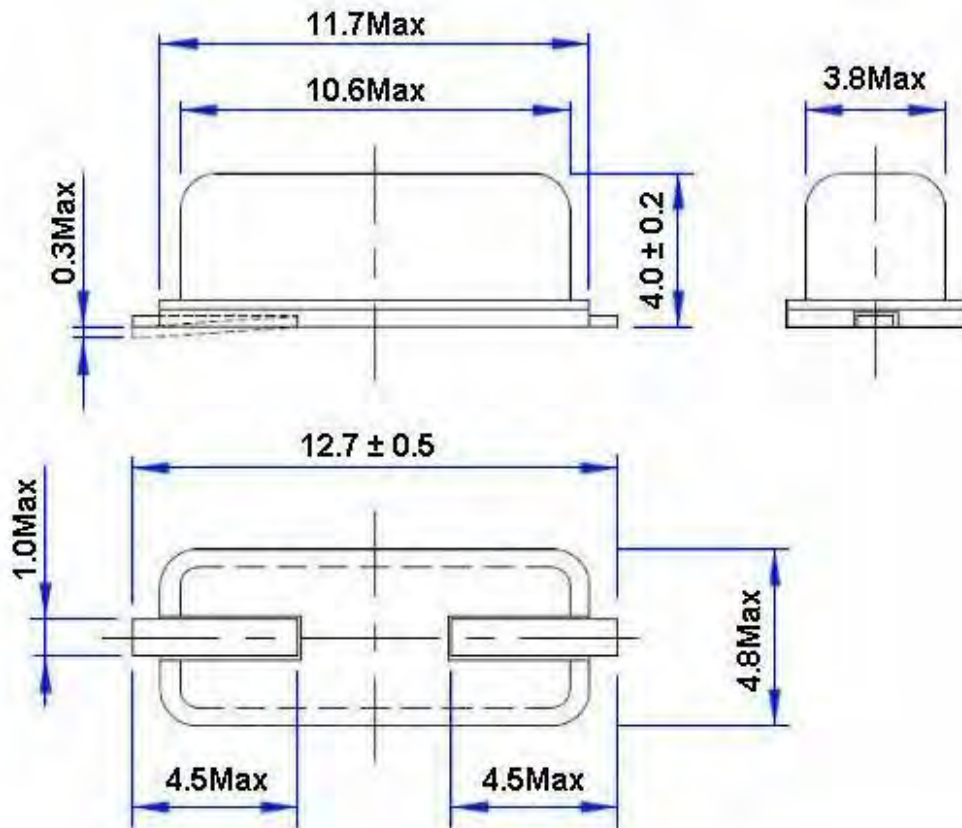
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## MARKING



## MECHANICAL DRAWINGS ( Scale: None. Dimensions are in mm.)

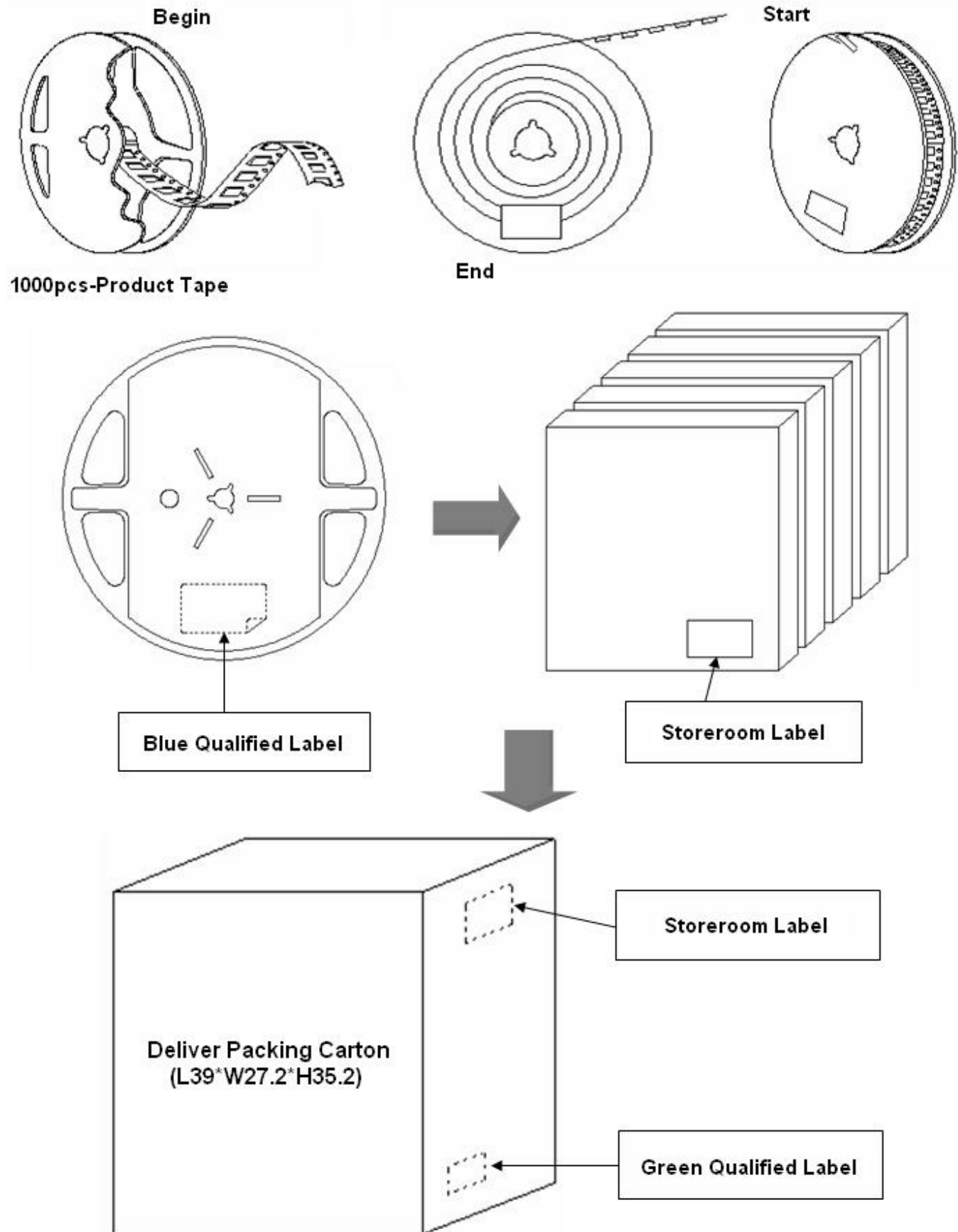


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## PACKING



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