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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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**PSE Technology Corporation**

**SPECIFICATION FOR APPROVAL**

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 100.000000 MHz

HOLDER TYPE TYPE SQ SEAM SEALED CRYSTAL CLOCK OSCILLATOR

SPEC. NO. ( P/N ) SQA000001

CUSTOMER P/N \_\_\_\_\_

ISSUE DATE May 15, 2014

VERSION F

APPROVED	PREPARED	QA
<i>Brenda</i>	<i>Clair</i>	<i>Becky</i>
APPROVED BY CUSTOMER :		AVL Status
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 SQ SEAM SEALED CRYSTAL CLOCK OSCILLATOR

**SQA000001**

VER. F 15-May-14

## ELECTRICAL SPECIFICATIONS

**SRe Part Number : SQA000001**

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F <sub>0</sub>	100.000000	MHz	
Frequency Stability	FT	± 50	ppm	**See note
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V <sub>CC</sub>	+3.3 ± 10.0%	V	
Logic Type	LT	HCSL		
Supply Current, Output Enabled	I <sub>CC/OE</sub>	40	mA	Max.
Supply Current, Output Disabled	I <sub>CC/OD</sub>	10	mA	Max.
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T <sub>R</sub> /T <sub>F</sub>	500	ps	Max. measured from Vol=0.175V to Voh=0.525V
Output Voltage "0" Level	V <sub>OL</sub>	-0.150	V	Min.
Output Voltage "1" Level	V <sub>OH</sub>	0.900	V	Max.
Output Load		Rs=33Ω, Rp=50Ω, CL=2pF		Typ. In HCSL termination
Output Phase Jitter-PCIe Gen2		2.5	ps RMS	Max.
Output Phase Jitter-PCIe Gen3		1	ps RMS	Max.
Jitter, Phase	RMS(1-σ)	1	ps	Max. 12KHz ~ 20MHz Frequency Band
Jitter, Peak to Peak	Pk-Pk	40	ps	Max. 100,000 Random Periods
Storage Temperature Range		-55°C to +125°C	°C	

※ This product doesn't include harmful substance that stipulated by SONY SS-00259 Level 1 and S-AT2-001 Level 1 standard. RoHS Compliant (Pb - Free).

\*\*Stability includes all combinations of Operating Temperature, Load changes, rated Input (Supply) Voltage changes, Initial Calibration Tolerance (25°C), Aging (5 years at 40°C Average Effective Ambient Temperature), Shock and Vibration.

### OUTPUT ENABLE / DISABLE

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	0.7V <sub>DD</sub>			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			0.3V <sub>DD</sub>	V	Output is Hi-Z
Output Disable Delay			200	ns	
Output Enable Delay			2	ms	

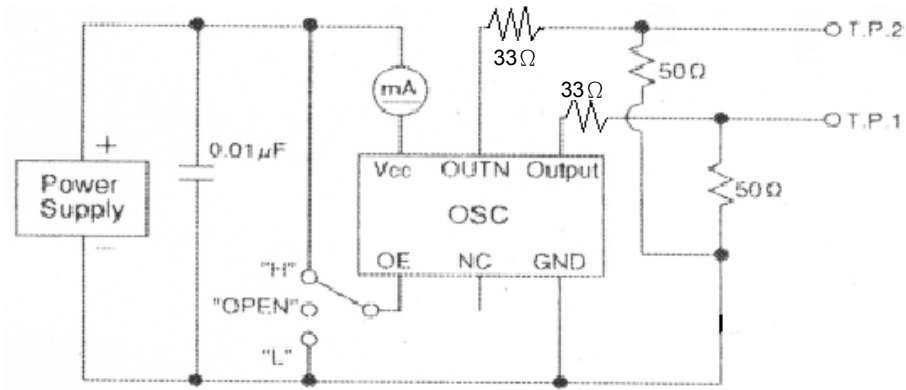


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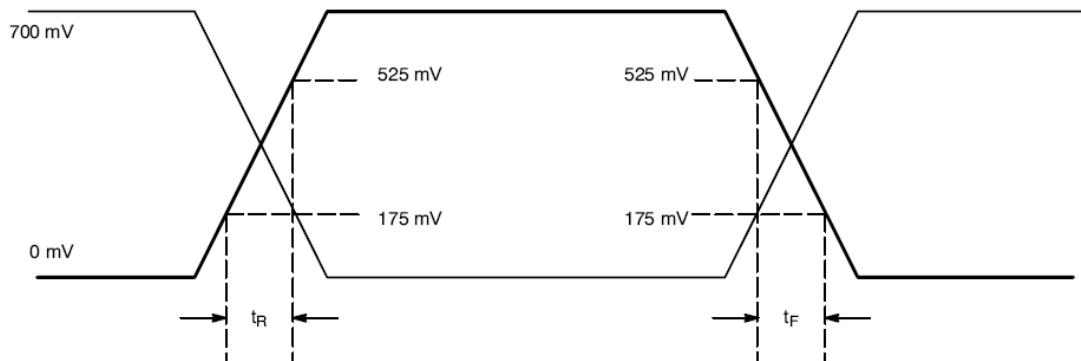
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## TEST CIRCUIT



## OUTPUT WAVEFORM



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## RELIABILITY SPECIFICATIONS

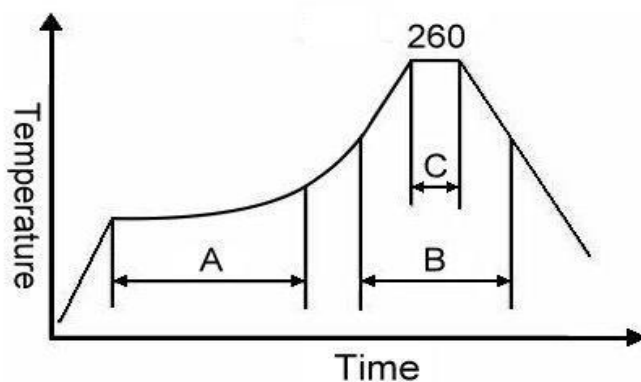
### ENVIRONMENTAL:

- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices  
(except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: RoHS Compliant

### MECHANICAL:

- a) SHOCK: MIL-STD-883, Method 2002, Condition B
- b) SOLDERABILITY: JESD22-B102-D Method 2 (Preconditioning E)
- c) TERMINAL STRENGTH: MIL-STD-883, Method 2004, Test Condition D
- d) GROSS LEAK: MIL-STD-883, Method 1014, Condition C
- e) FINE LEAK: MIL-STD-883, Method 1014, Condition A2,  $R1=2 \times 10^{-8}$  atm cc/s
- f) SOLVENT RESISTANCE: MIL-STD-202, Method 215

## SUGGESTED IR REFLOW PROFILE



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

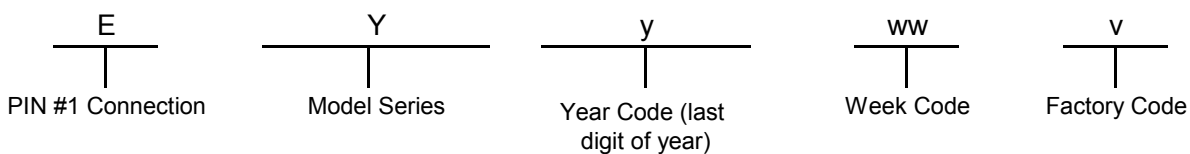
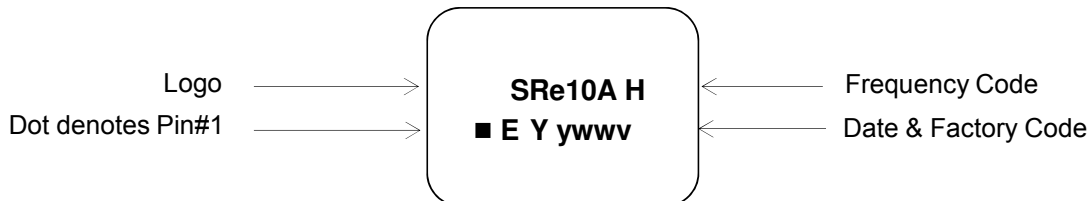
For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow.pdf>

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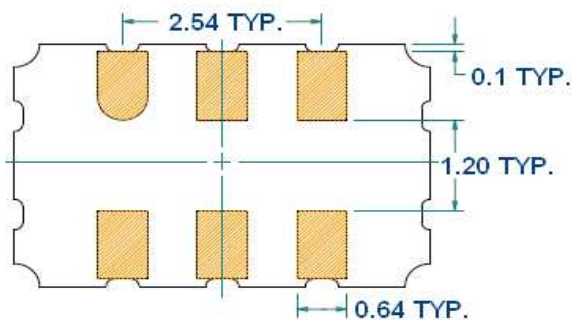
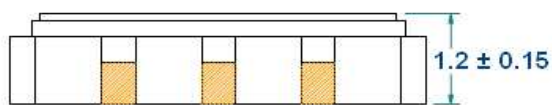
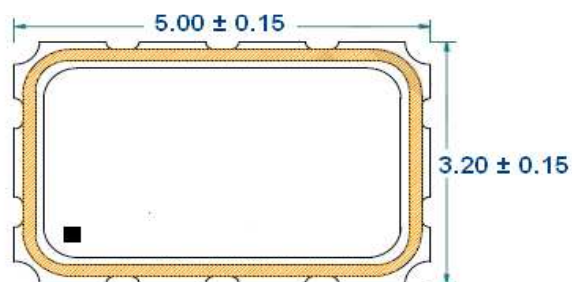
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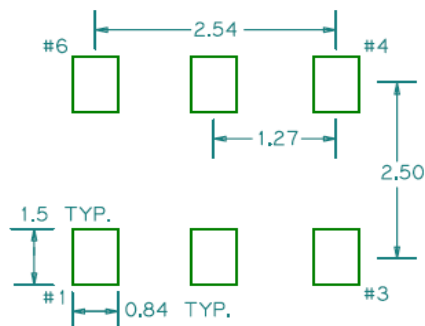
## MARKING



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



### Recommended Land Pattern\*



\*External high-frequency power decoupling is recommended. (see test circuit for minimum recommendation). To ensure optimal performance, do not route traces beneath the package.

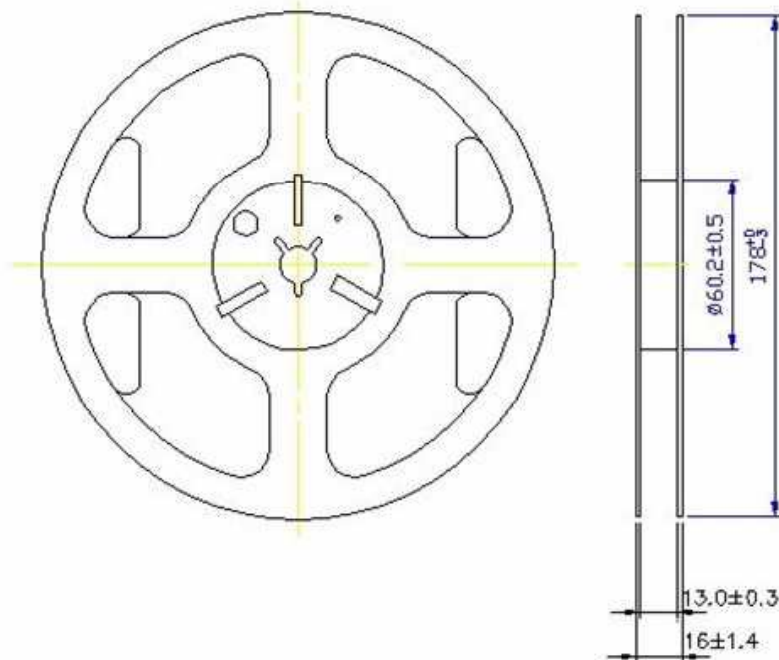
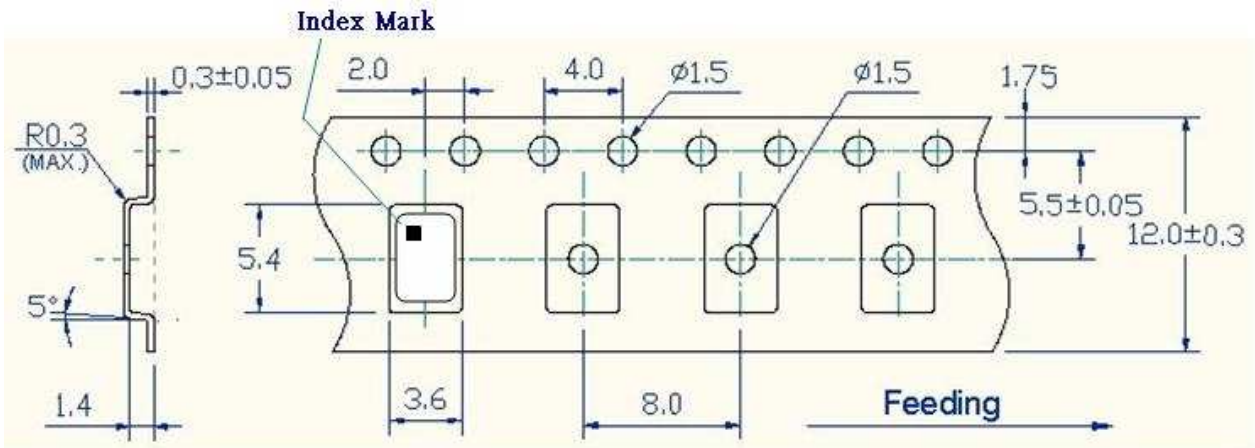
Pin	Function
1	OE
2	NC
3	V <sub>EE</sub>
4	OUTPUT
5	OUTPUT N
6	V <sub>CC</sub>

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## TAPE&REEL



1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.



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## PACKING

