
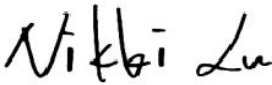



# PSE Technology Corporation

## SPECIFICATION FOR APPROVAL

CUSTOMER	
NOMINAL FREQUENCY	20.000000 MHz
PRODUCT TYPE	TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL
PART NUMBER	FW2000008
CUSTOMER P/N	
ISSUE DATE	December 25, 2012
VERSION	A

APPROVED	PREPARED	QA
		
APPROVED BY CUSTOMER		
<div>Please return one copy with approval to PSE-TW</div>		

### PSE Technology Corporation

No.2, Tzu-Chiang 5th Rd., Chung Li Industrial Park,  
Chung Li City, Taoyuan County, Taiwan (R.O.C.)  
TEL:886-3-451-8888  
FAX:886-3-461-3865  
<http://www.saronix-ecera.com.tw/>

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

**A Company of PERICOM Semiconductor Corporation**

# TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

***FW2000008***

VER.A 25-DEC-12

## VERSION HISTORY

Version No.	Version Date	Customer Receipt Date	Supplier Receipt Date	Description	Notes
A	Dec. 25, 2012			Initial Release	

# TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

**FW2000008**

VER.A 25-DEC-12

## ELECTRICAL SPECIFICATIONS

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fn	20.000000	MHz	
Mode of Oscillation	MO	AT Cut-Fundamental		
Calibration Load Capacitance	CL	12	pF	
Calibration Tolerance	FL	$\pm 10$	ppm	at 25°C $\pm 3^{\circ}\text{C}$
Operating Temperature Range	TR	-20 to +85	°C	
Frequency Stability(Frequency Deviation over the Operating Temperature Range)	F/T	$\pm 10$	ppm	Reference to the Frequency at 25°C
Operating Drive Level		100	$\mu\text{W}$	
Maximum Drive Level		150	$\mu\text{W}$	
Equivalent Series Resistance	ESR	80	$\Omega$	Max.
Shunt Capacitance	C0	3	pF	Max.
Aging at 25°C		$\pm 1$	ppm	Max, 1st year
Storage Temperature		-55 to +125	°C	
Insulation Resistance		500	M $\Omega$	Min

\*\* 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).

# TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

**FW2000008**

VER.A 25-DEC-12

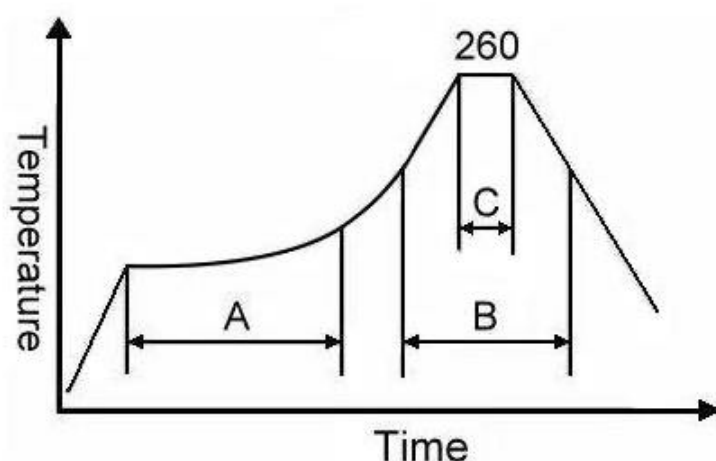
## RELIABILITY SPECIFICATIONS

### 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

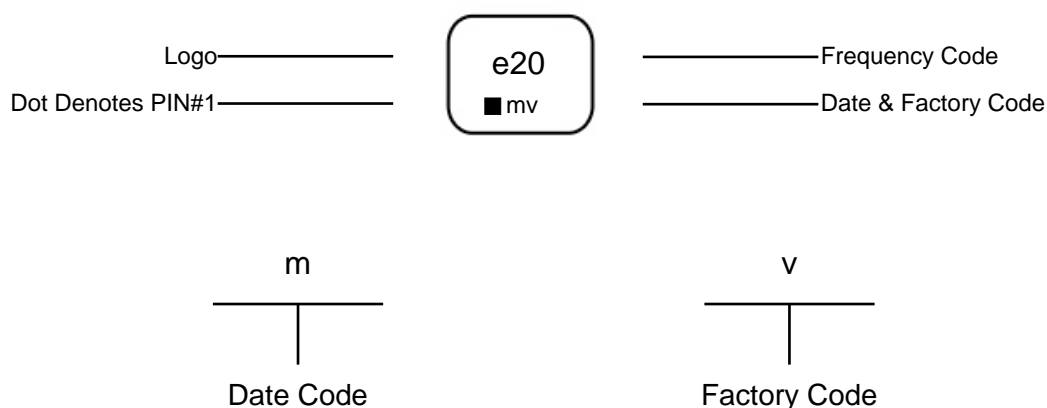
For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow.pdf>

# TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

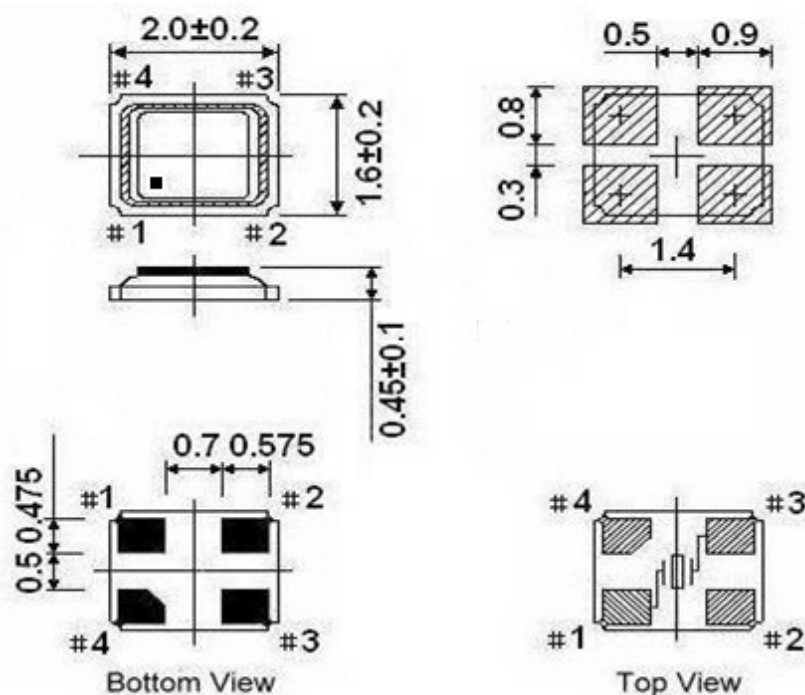
**FW2000008**

VER.A 25-DEC-12

## MARKING



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



\*\* Recommended - Pin 1 & 3 : CRYSTAL  
Pin 2 & 4 : GND

### Note:

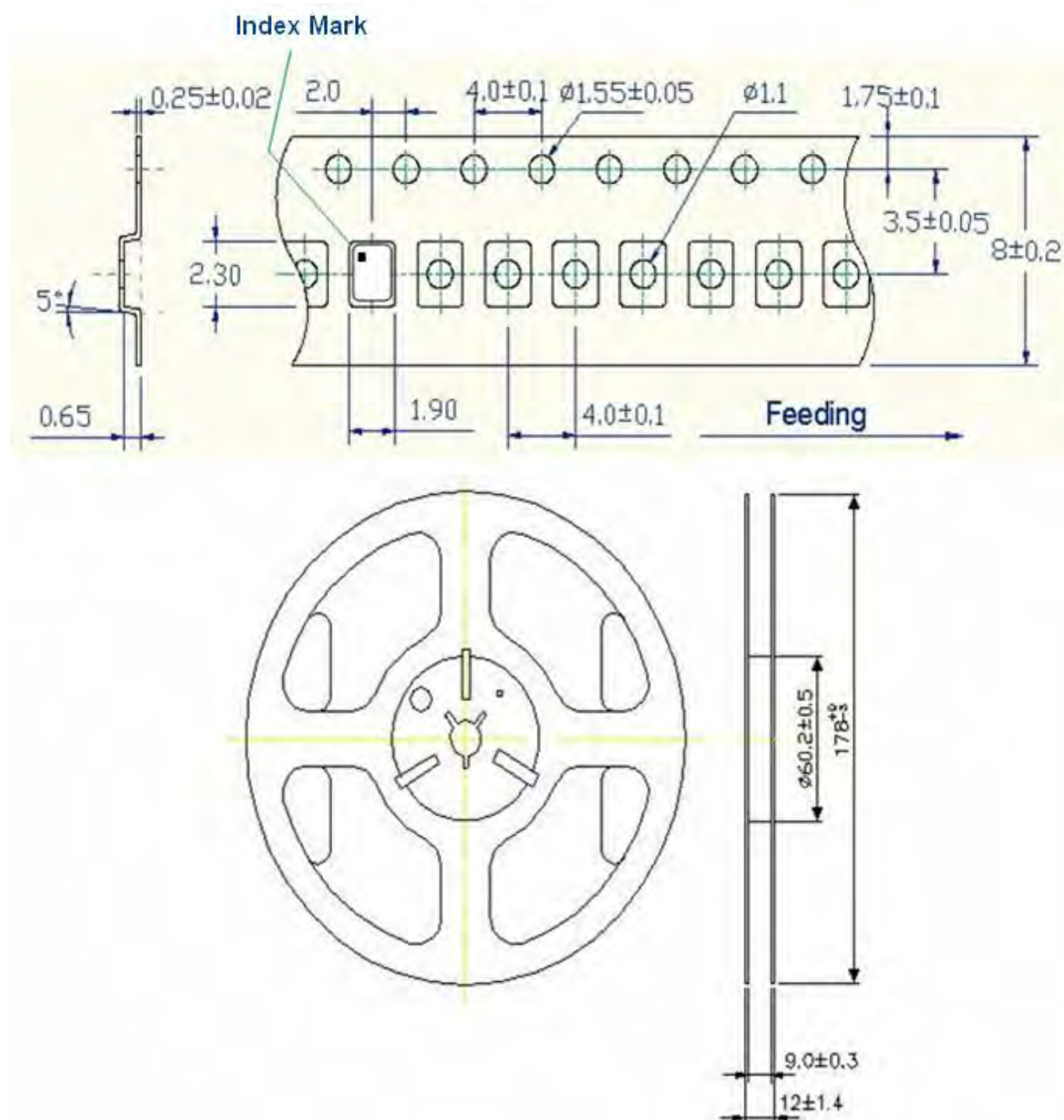
1. The marking dot denotes Pin#1.
2. Pin positions of the drawing is only for reference, and the Pin with chamfer is based on the real product.

# TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

**FW2000008**

VER.A 25-DEC-12

## 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.



# TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

FW2000008

VER.A 25-DEC-12

## PACKING

