



# PSE Technology Corporation

## SPECIFICATION FOR APPROVAL

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 20.800000 MHz

PRODUCT TYPE TYPE WT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

SPEC. NO. ( P/N ) WT3251F0020.800000

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

ISSUE DATE November 10, 2012

VERSION 02

APPROVED	PREPARED	QA
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APPROVED BY CUSTOMER :		AVL Status
Please return one copy with approval to PSE-TW		

### PSE Technology Corporation

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

\*\*\* A company of  PERICOM Semiconductor Corporation \*\*\*

Pericom Internal Reference NO. WT3520801A



# TYPE WT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

## WT3251F0020.800000

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### ELECTRICAL SPECIFICATIONS

SRe Part Number : WT3251F0020.800000

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F <sub>o</sub>	20.800000	MHz	
Operating Temperature Range	TR	-30 to +85	°C	
Storage Temperature Range		-40 to +85	°C	
Supply Voltage	V <sub>DD</sub>	+3.3 ± 5.0%	V	
Frequency Stability	FT	± 0.5	ppm	vs. Temperature (Refer to the mid-point between minimum and maximum frequency values over the specified temperature range)
Frequency Stability		± 0.2	ppm	vs. Load varied 10pF//10kΩ±10%
Frequency Stability		± 0.1	ppm	vs. Supply Voltage varied V <sub>DD</sub> ±5% at 25°C
Frequency Tolerance		± 2.0	ppm	Max. After 2 times reflow (Refer to nominal frequency)
Frequency Slope		± 0.3	ppm/°C	Max. (measurement every 2°C from -30°C to +85°C )
Static Temperature Hysteresis		± 0.6	ppm	Max.
Aging		±1	ppm	per year at 25°C
Logic Type	LT	Clipped Sinewave		
Supply Current	I <sub>DD</sub>	2	mA	Max.
Start Up Time v.s Output Level		2.5	msec	Max, 90% of specified output level
Output Voltage		0.8 to 1.4	Vp-p	
Output Load Resistance		10	KΩ	9KΩ Min / 11KΩ Max
Output Load Capacitance		10	pF	9pF Min / 11pF Max
Harmonics		-7	dBc	Max.
Phase Noise		-128	dBc/Hz	Max, at 1kHz offset

※ 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).

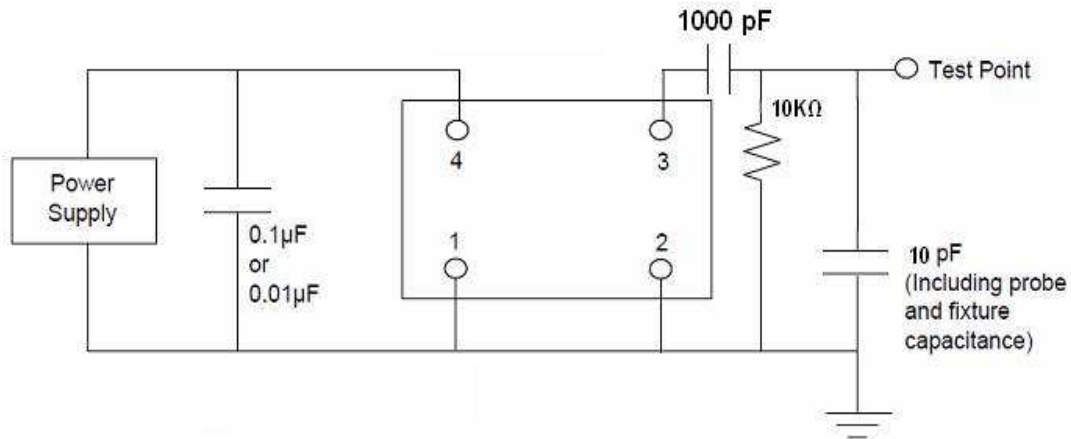


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## TEST CIRCUIT



## RELIABILITY SPECIFICATIONS

### ENVIRONMENTAL:

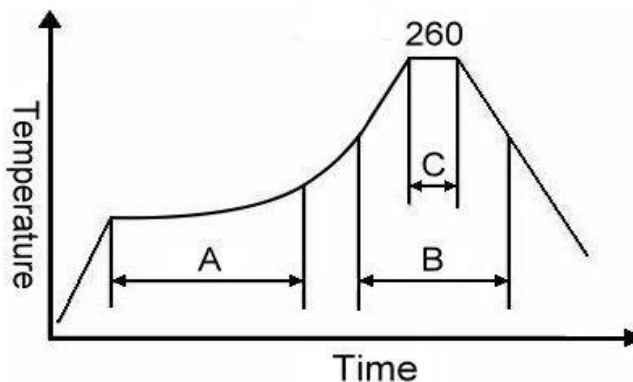
- THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- VIBRATION: MIL-STD-883, Method 2007, Condition A
- RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)
- HAZARDOUS SUBSTANCE: Pb - free and RoHS Compliant.

### MECHANICAL:

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

## SUGGESTED IR REFLOW PROFILE

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



Note:

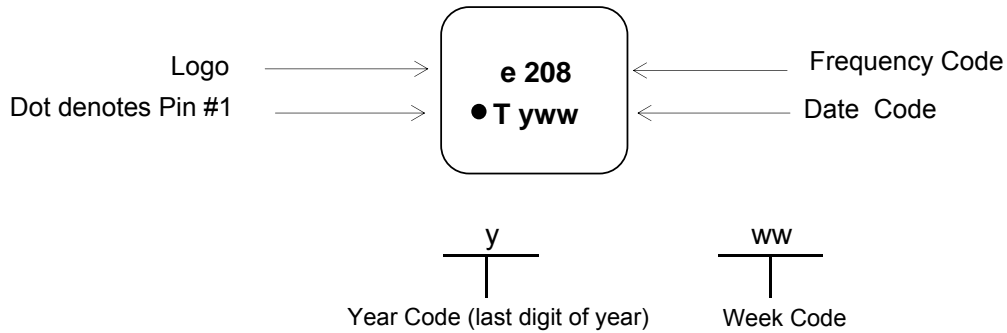
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

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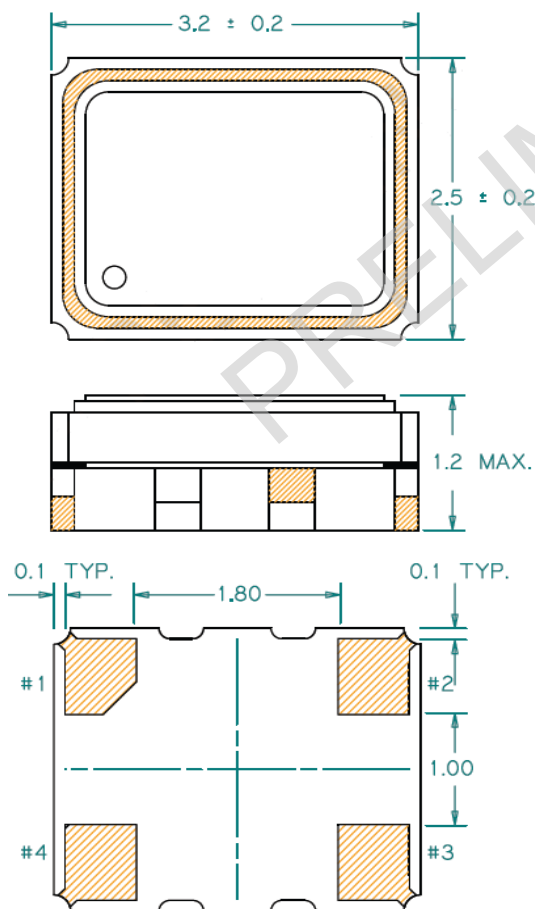
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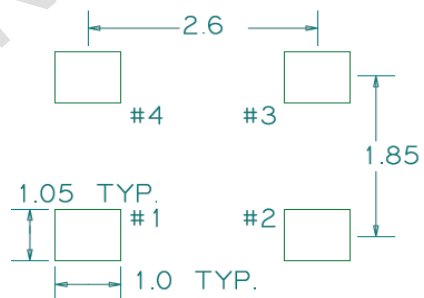
## MARKING



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



Recommended Land Pattern:



### Pin Functions:

Pin	Function
1	Ground
2	Ground
3	Output
4	V <sub>DD</sub>

### \* NOTE

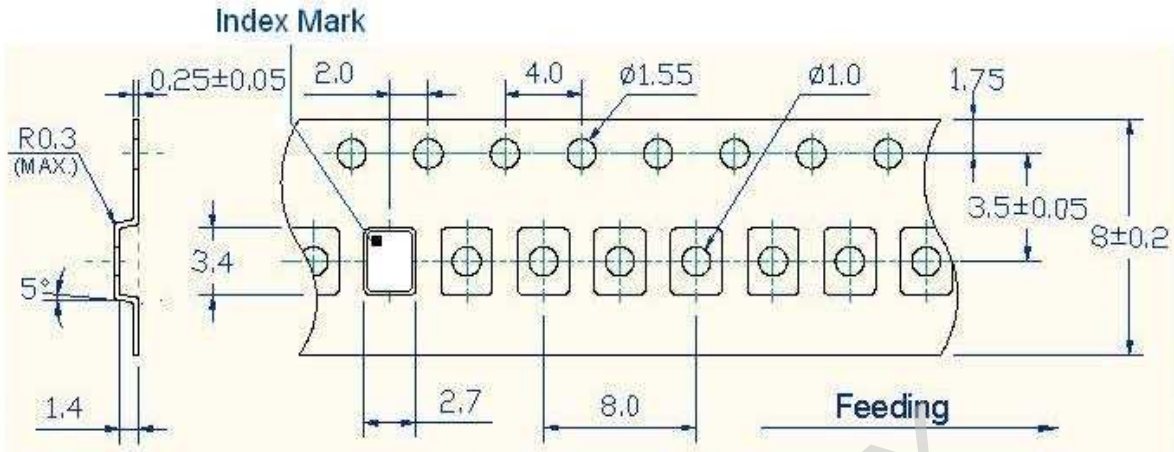
#1 pad. Must be connected to ground on your circuit, otherwise oscillation frequency will shift from the output frequency specified.

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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.

PACKING

