



## PSE Technology Corporation

### SPECIFICATION FOR APPROVAL

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 12.800000 MHz

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

SPEC. NO. ( P/N ) WT325BS0012.800000

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

ISSUE DATE November 10, 2012

VERSION 02

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

#### 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 \*\*\*

Pericom Internal Reference NO. WT3512801A

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

**WT325BS0012.800000**

VER. 02      10-Nov-12

## VERSION HISTORY

[illegible]

# TYPE WT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

**WT325BS0012.800000**

VER. 02

10-Nov-12

## ELECTRICAL SPECIFICATIONS

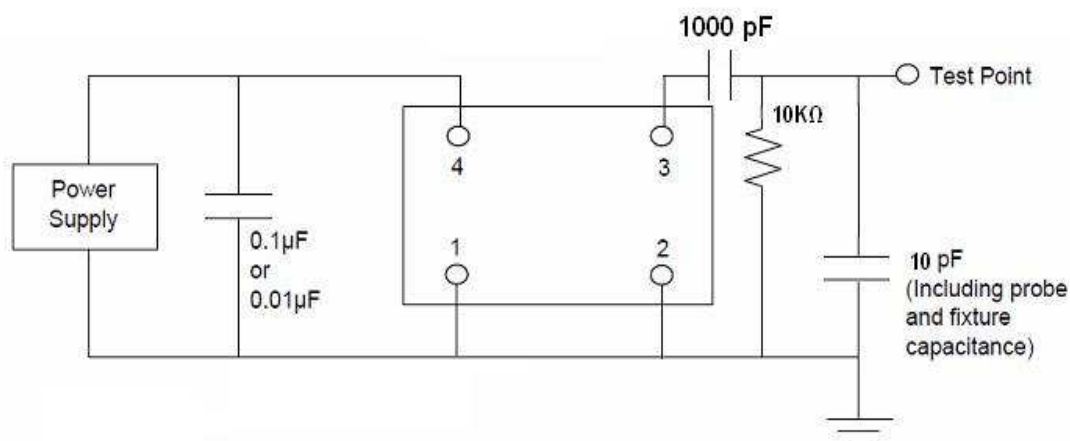
**SRe Part Number : WT325BS0012.800000**

| Item                                | Symbol          | Specifications   | Units  | Notes                                                                                                                      |
|-------------------------------------|-----------------|------------------|--------|----------------------------------------------------------------------------------------------------------------------------|
| Nominal Frequency                   | Fo              | 12.800000        | MHz    |                                                                                                                            |
| Operating Temperature Range         | TR              | -40 to +85       | °C     |                                                                                                                            |
| Storage Temperature Range           |                 | -40 to +85       | °C     |                                                                                                                            |
| Supply Voltage                      | V <sub>DD</sub> | +3.0 ± 5.0%      | V      |                                                                                                                            |
| Frequency Stability(-30°C to +85°C) | FT              | ± 2              | ppm    | vs. Temperature (Refer to the mid-point between minimum and maximum frequency values over the specified temperature range) |
| Frequency Stability(-40°C to -30°C) | FT              | ± 3              | ppm    |                                                                                                                            |
| 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                         |                 | -130             | 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).



### TEST CIRCUIT



### RELIABILITY SPECIFICATIONS

#### ENVIRONMENTAL:

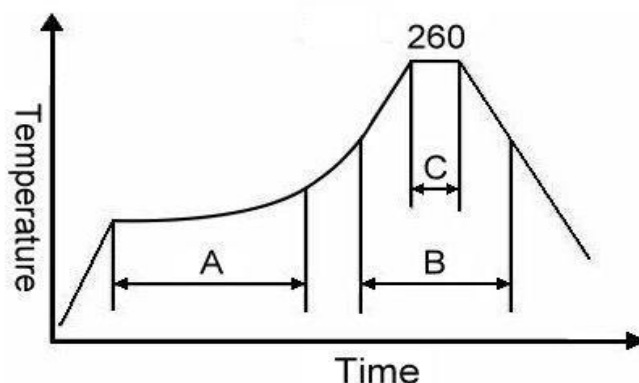
- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: Pb - free and RoHS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

\*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     |

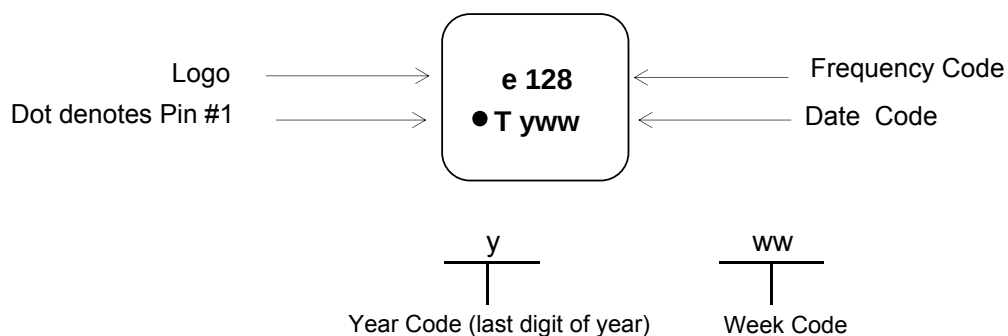
# TYPE WT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

**WT325BS0012.800000**

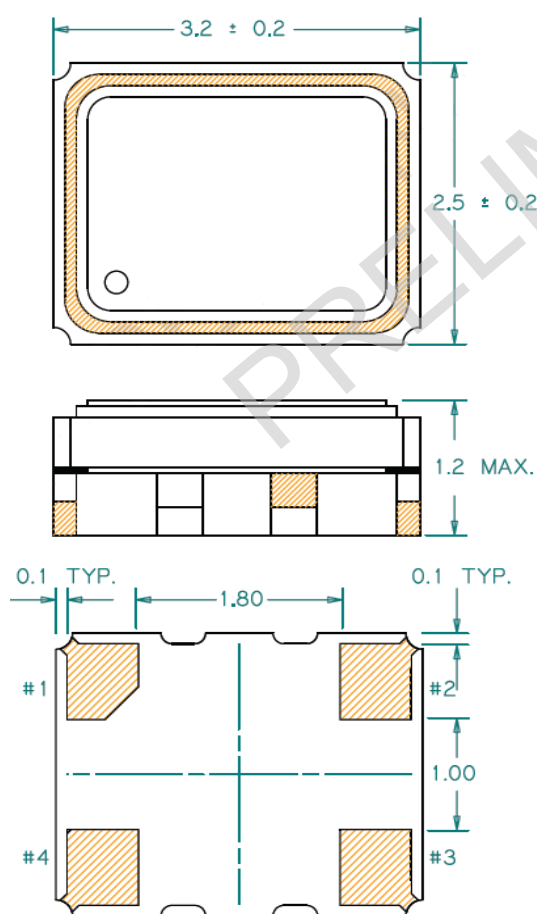
VER. 02

10-Nov-12

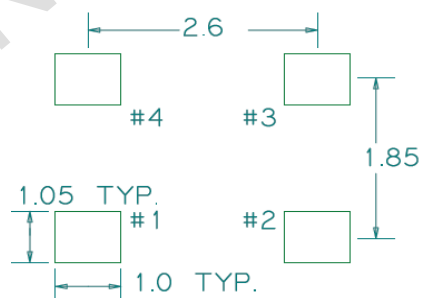
## MARKING



## 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.

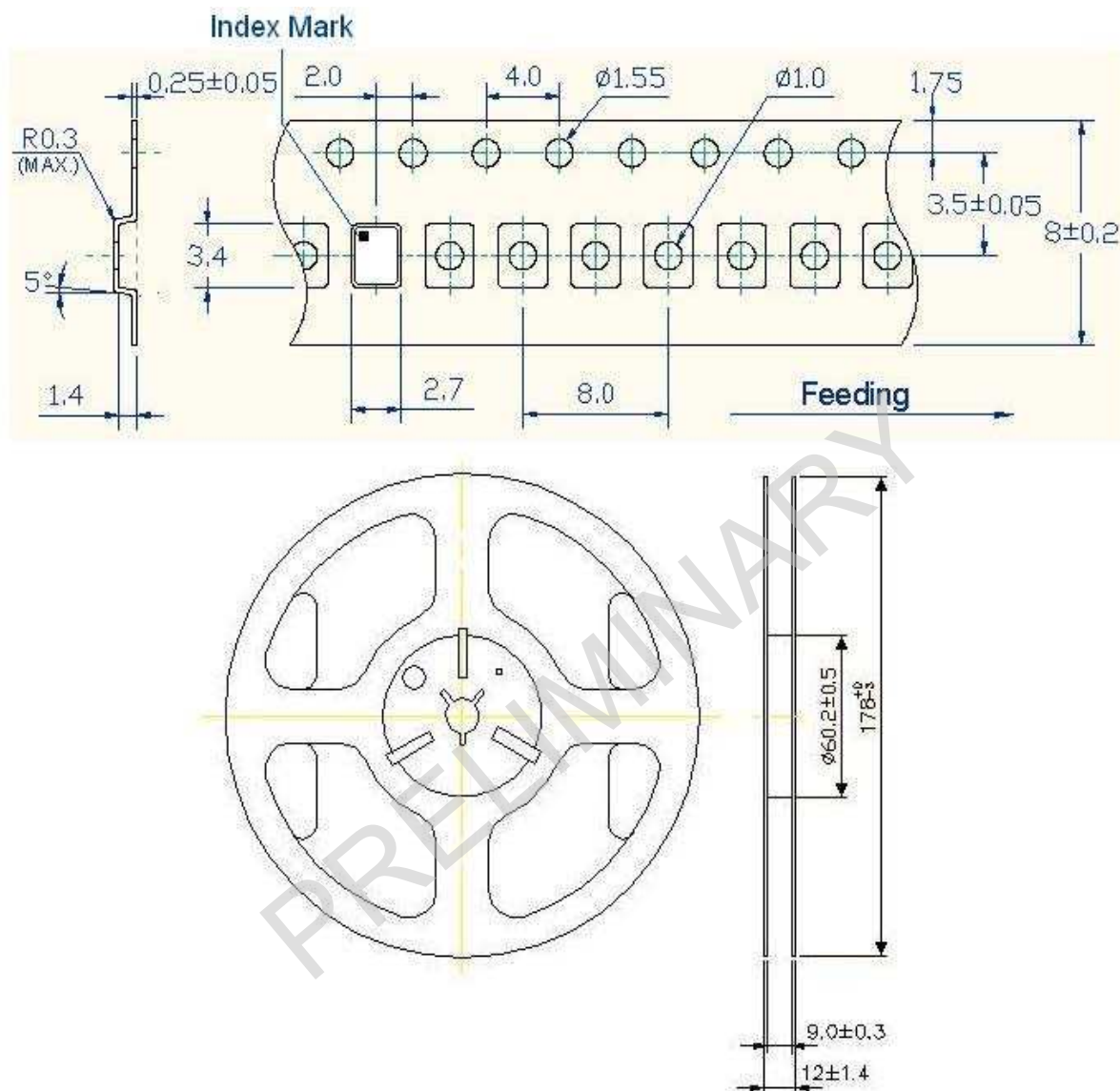
# TYPE WT 3.2X2.5 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

**WT325BS0012.800000**

VER. 02

10-Nov-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.

## PACKING

