



## PSE Technology Corporation

### SPECIFICATION FOR APPROVAL

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 38.400000 MHz

PRODUCT TYPE TYPE WT 2.5X2.0 TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

SPEC. NO. ( P/N ) WT2552F0038.400000

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

ISSUE DATE November 9, 2012

VERSION 02

| APPROVED                                       | PREPARED | QA         |
|------------------------------------------------|----------|------------|
| Brenda                                         | Clair    | Bedley     |
| 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. WT25384001

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## VERSION HISTORY

[illegible]

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## ELECTRICAL SPECIFICATIONS

**SRe Part Number : WT2552F0038.400000**

| Item                           | Symbol          | Specifications   | Units  | Notes                                                                                                                      |
|--------------------------------|-----------------|------------------|--------|----------------------------------------------------------------------------------------------------------------------------|
| Nominal Frequency              | Fo              | 38.400000        | MHz    |                                                                                                                            |
| Operating Temperature Range    | TR              | -30 to +85       | °C     |                                                                                                                            |
| Storage Temperature Range      |                 | -40 to +85       | °C     |                                                                                                                            |
| Supply Voltage                 | V <sub>DD</sub> | +2.5 ± 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                |                 | ± 0.1            | 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).



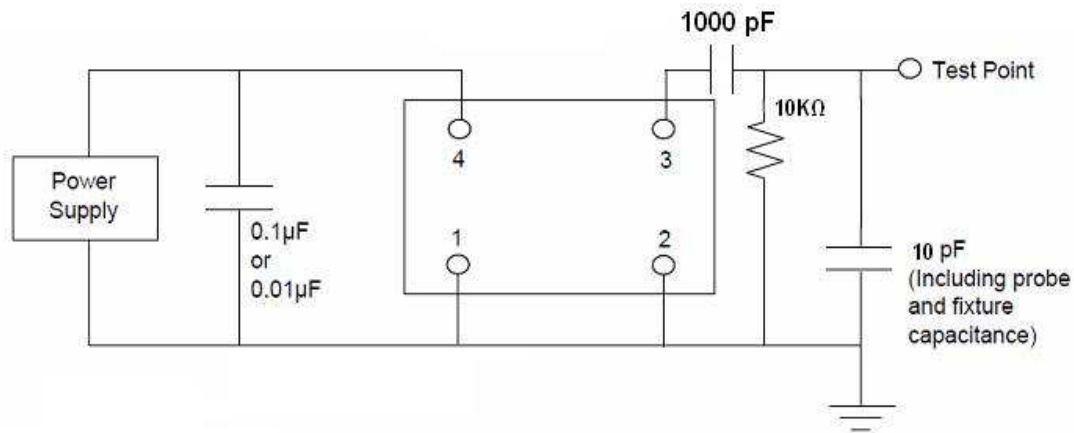
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## TEST CIRCUIT



## RELIABILITY SPECIFICATIONS

### ENVIRONMENTAL:

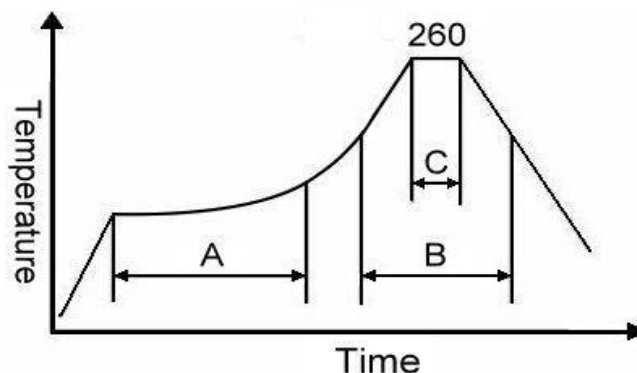
- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: Pb - free and RoHS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

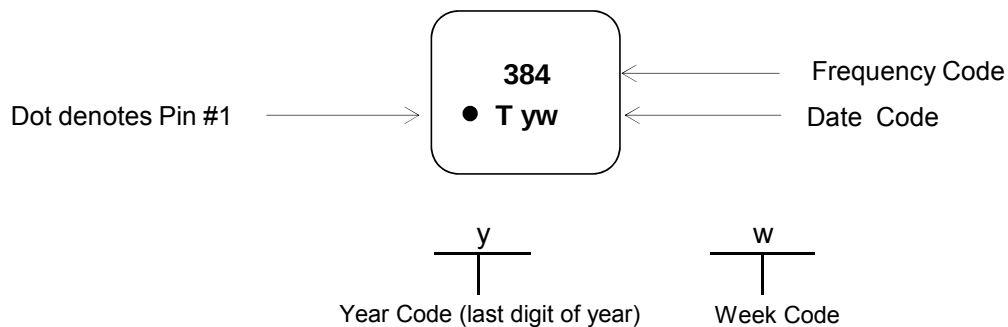
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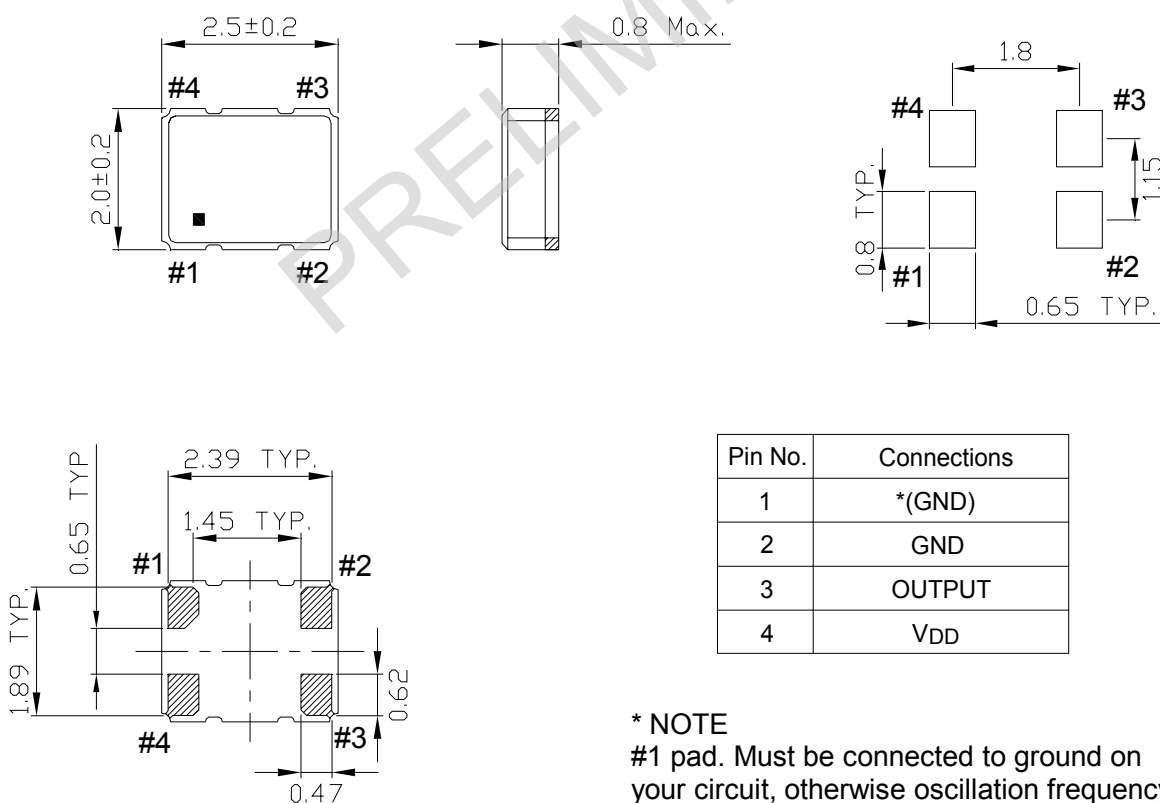
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## MARKING



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

Recommended Land Pattern  
(TOP VIEW)



### \* NOTE

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

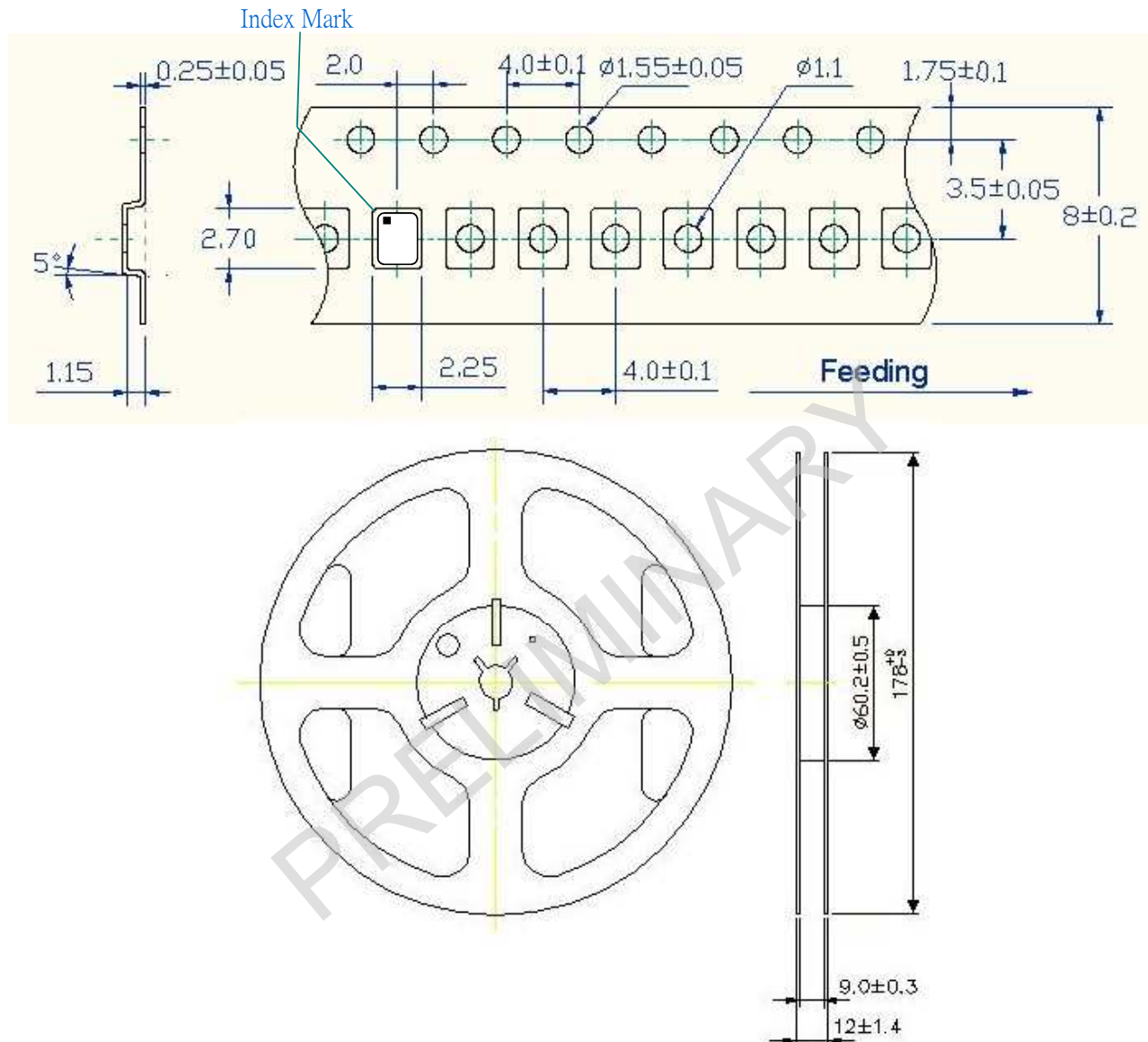
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## TAPE&REEL



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.

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## PACKING

