

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) SQA000002

CUSTOMER P/N _____

ISSUE DATE April 19, 2011

VERSION A

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

PSE Technology Corporation

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- *RoHS Exemption
- *HF-Halogen Free
- *REACH Compliant

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

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ELECTRICAL SPECIFICATIONS

SRe Part Number : SQA000002

| Item | Symbol | Specifications | Units | Notes |
|---------------------------------|--------------------------------|------------------------|--------|---|
| Nominal Frequency | F ₀ | 100.000000 | MHz | |
| Frequency Stability | FT | ± 50 | ppm | **See note |
| Operating Temperature Range | TR | -40 to +85 | °C | |
| Supply Voltage | V _{CC} | +2.5 ± 10.0% | V | |
| Logic Type | LT | HCSL | | |
| Supply Current, Output Enabled | I _{CC} /OE | 40 | mA | Max. |
| Supply Current, Output Disabled | I _{CC} /OD | 10 | mA | Max. |
| Duty Cycle (Symmetry) | DC/SY | 45 / 55 | % | Measured 50% of Waveform |
| Rise / Fall Time | T _R /T _F | 700 | ps | Max. measured from Vol=0.175V to Voh=0.525V |
| Output Voltage "0" Level | V _{OL} | -0.150 | V | Min. 0.0V Typ. |
| Output Voltage "1" Level | V _{OH} | 0.900 | V | Max. 0.660V Min. 0.700V Typ. |
| Output Load | | Rs=33Ω, Rp=50Ω, CL=2pF | | Typ. In HCSL termination |
| Output Phase Jitter-PCIe Gen2 | | 2.5 | 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 _{DD} | | | V | Or Open |
| Input Voltage (Pin1), Output Disable (low power standby) | | | 0.3V _{DD} | V | Output is Hi-Z |
| Output Disable Delay | | | 200 | ns | |
| Output Enable Delay | | | 2 | ms | |

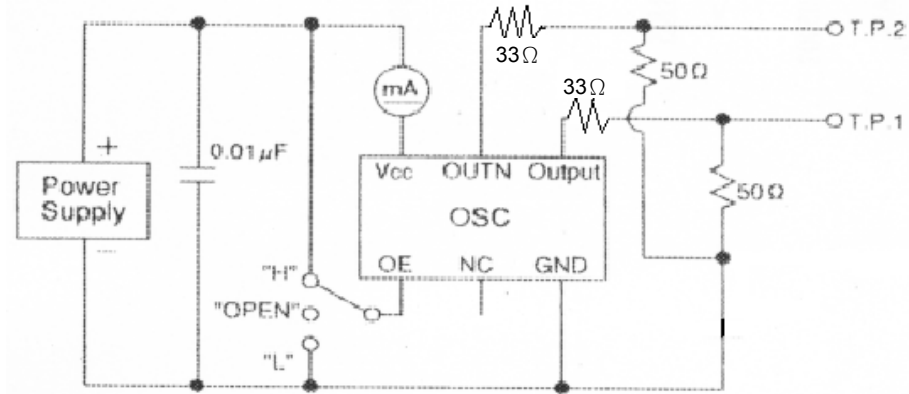


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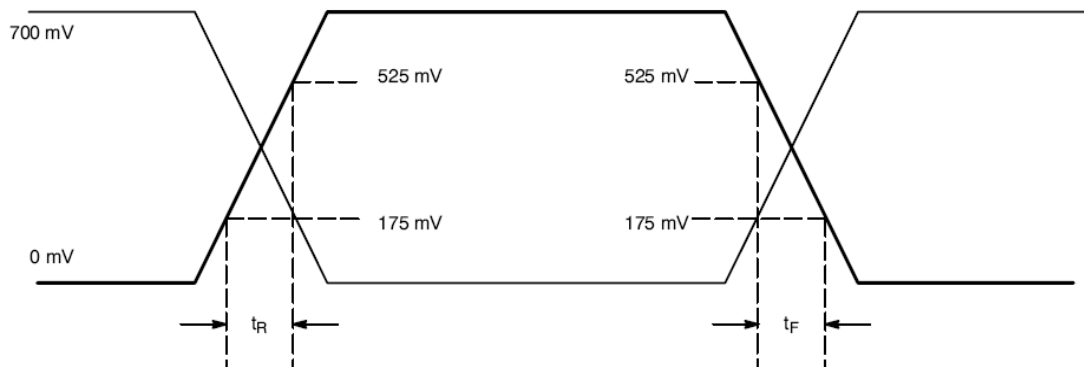
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TEST CIRCUIT



OUTPUT WAVEFORM



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RELIABILITY SPECIFICATIONS

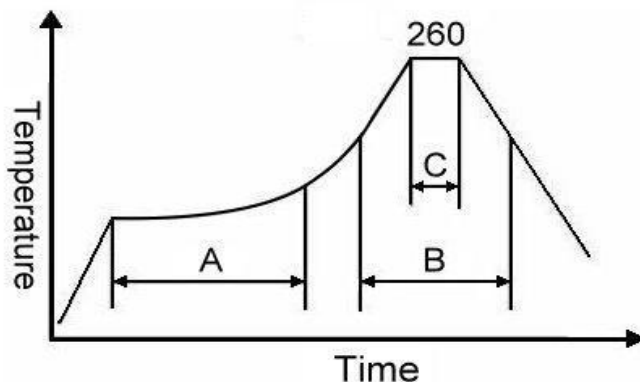
ENVIRONMENTAL:

- 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 by Exemption

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>

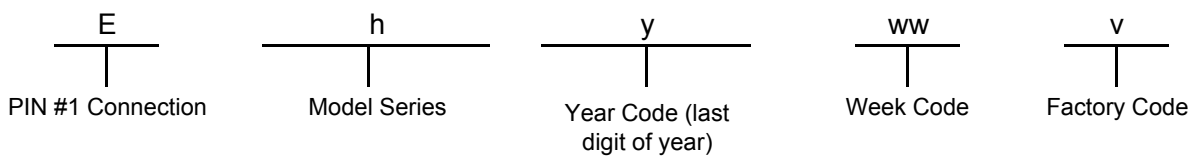
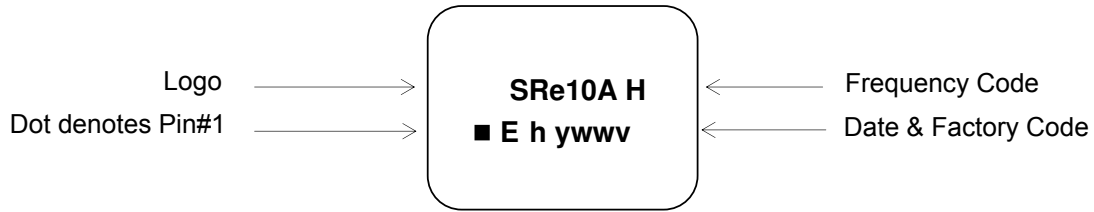


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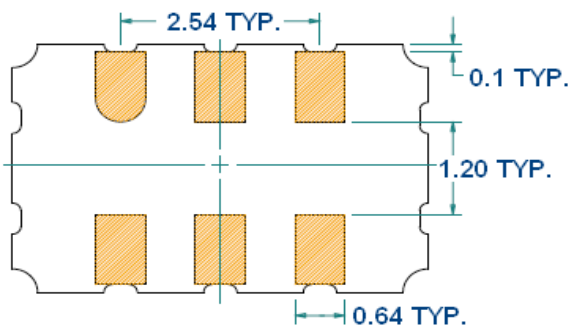
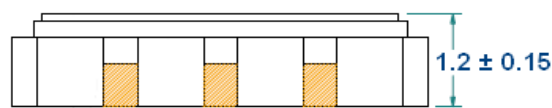
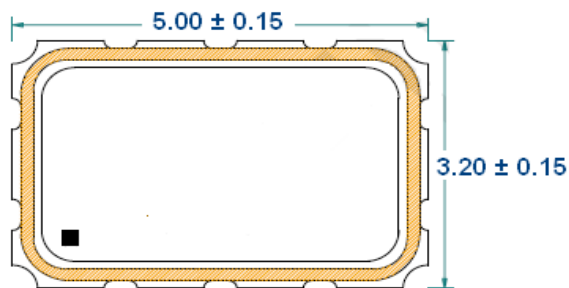
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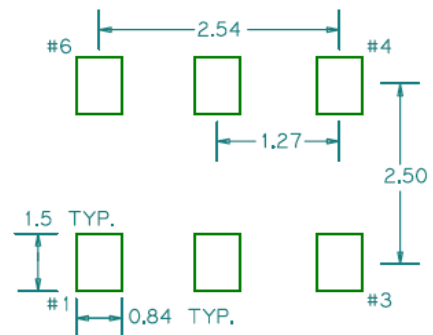
MARKING



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.

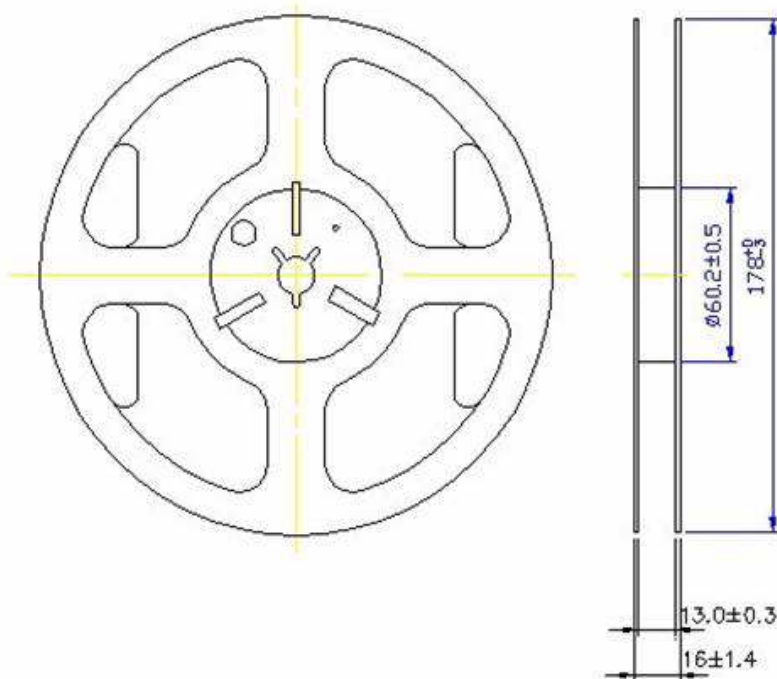
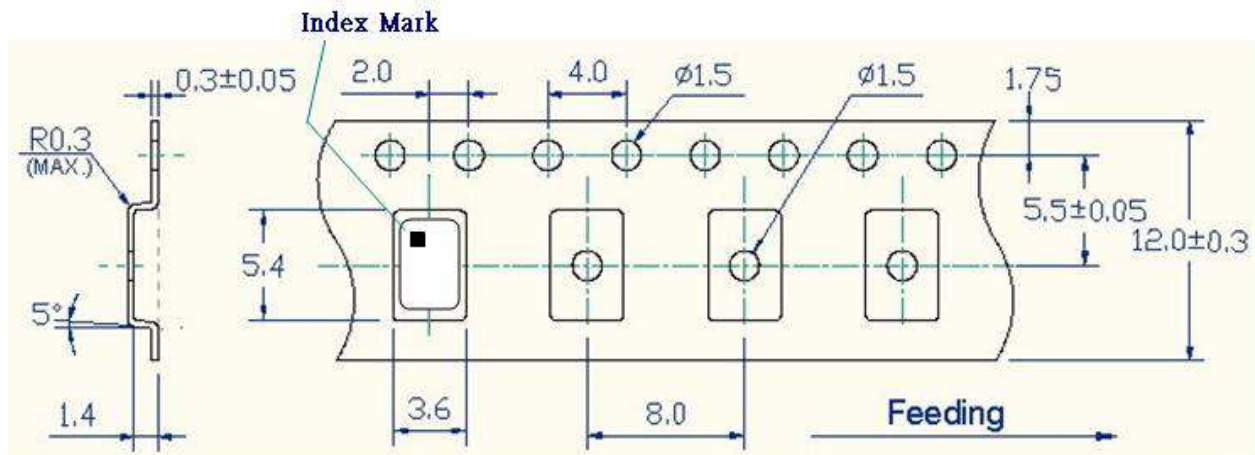
| Pin | Function |
|-----|-----------------|
| 1 | OE |
| 2 | NC |
| 3 | V _{EE} |
| 4 | OUTPUT |
| 5 | OUTPUT N |
| 6 | V _{CC} |

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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

