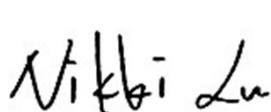
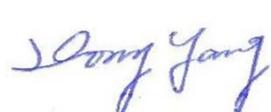


PSE Technology Corporation

SPECIFICATION FOR APPROVAL

| | |
|-------------------|--|
| CUSTOMER | _____ |
| NOMINAL FREQUENCY | 39.062500 MHz |
| HOLDER TYPE | TYPE FM 2.0x1.6 SEAM SEALED CRYSTAL CLOCK OSCILLATOR |
| SPEC. NO. (P/N) | FM3900001Z |
| CUSTOMER P/N | _____ |
| ISSUE DATE | September 2, 2015 |
| VERSION | A |

| 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 ***

TYPE FM 2.0x1.6 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

FM3900001Z

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ELECTRICAL SPECIFICATIONS

SRe Part Number : FM3900001Z

| Item | Symbol | Specifications | Units | Notes |
|---------------------------------|--------------------------------|---------------------|-------|------------------------------------|
| Nominal Frequency | F ₀ | 39.062500 | MHz | |
| Frequency Stability | FT | ± 50 | ppm | **See note |
| Operating Temperature Range | TR | -40 to +85 | °C | |
| Supply Voltage | V _{DD} | +3.3V ± 10% | V | |
| Logic Type | LT | LVC MOS | | |
| Supply Current, Output Enabled | I _{DD} /OE | 5 | mA | Max |
| Supply Current, Output Disabled | I _{DD} /OD | 10 | µA | Max |
| Duty Cycle (Symmetry) | DC/SY | 45 / 55 | % | Measured 50% of Waveform |
| Rise / Fall Time | T _R /T _F | 5 | ns | Max. measured 20 / 80% of Waveform |
| Output Voltage "0" Level | V _{OL} | 10% V _{DD} | V | Max |
| Output Voltage "1" Level | V _{OH} | 90% V _{DD} | V | Min |
| Output Load | CL | 15 | pF | Max |
| Jitter, Phase | RMS | 1 | ps | Max. 12KHz ~ 5MHz Frequency Band |
| Jitter, Accumulated | RMS(1-σ) | 4 | ps | Max. 20,000 Consecutive Periods |
| Jitter, Peak to Peak | Pk-Pk | 40 | ps | Max. 100,000 Random Periods |
| Start Up Time | | 10 | ms | Max. |
| Storage Temperature Range | | -55 to +125 | °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 (1 year at 25°C Average Effective Ambient Temperature), Shock and Vibration.

Output Enable / Disable Function

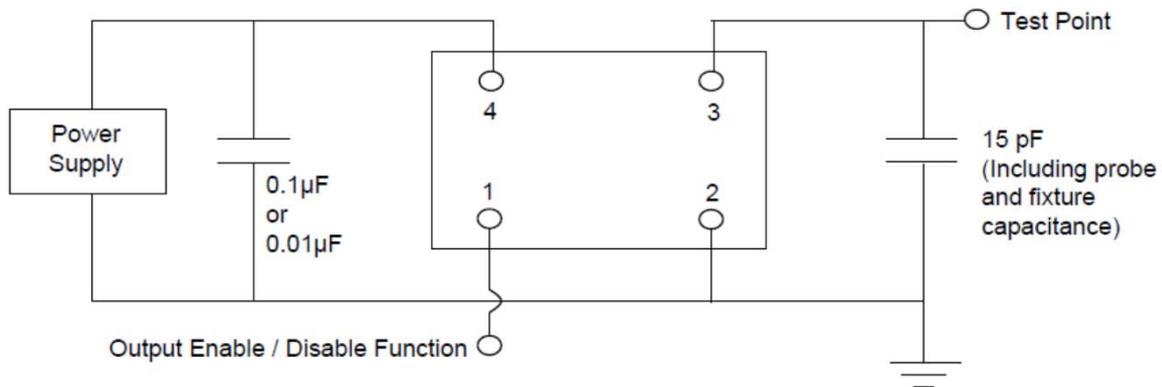
| Parameter | Min. | Typ. | Max. | Units | Notes |
|--|--------------------|------|--------------------|-------|----------------|
| Input Voltage (Pin1), Output Enable | 0.7V _{DD} | | | V | Or Open |
| Input Voltage (Pin1), Output Disable (low power standby) | | | 0.3V _{DD} | V | Output is Hi-Z |
| Internal Pullup Resistance | 30 | | | KΩ | |
| Output Disable Delay | | | 50 | ns | |
| Output Enable Delay | | | 50 | us | |

TYPE FM 2.0x1.6 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

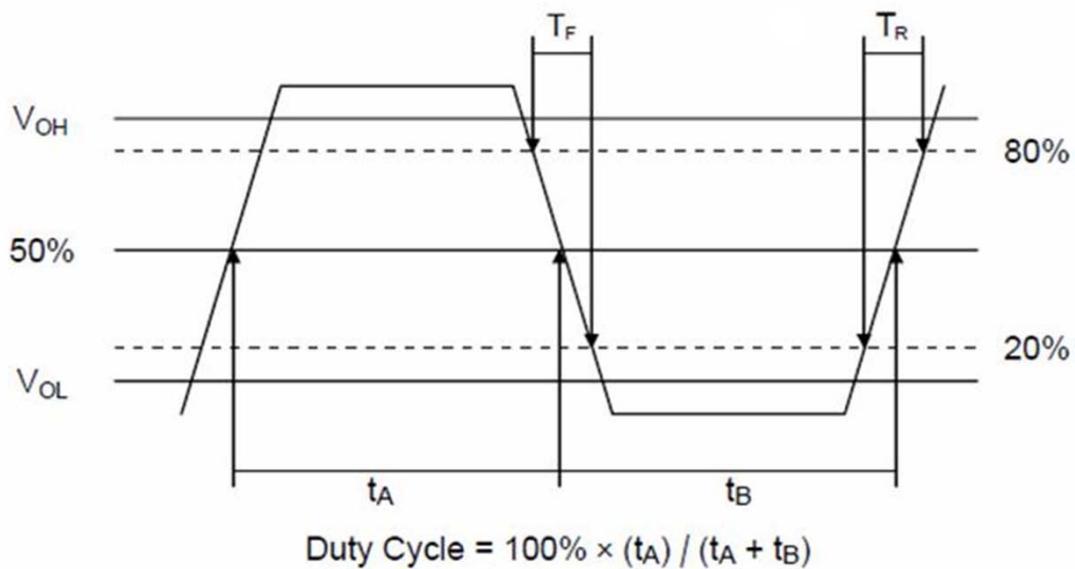
FM3900001Z

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TEST CIRCUIT



OUTPUT WAVEFORM



TYPE FM 2.0x1.6 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

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RELIABILITY SPECIFICATIONS

ENVIRONMENTAL:

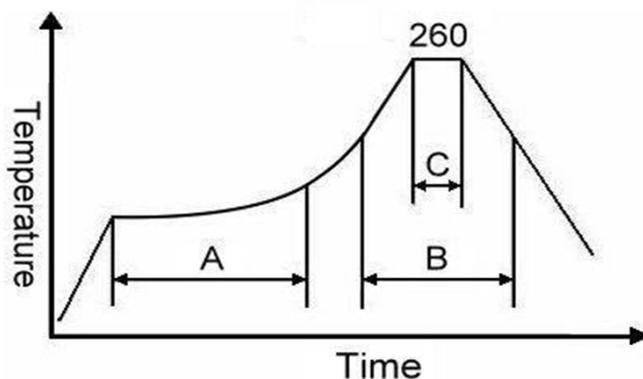
- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: Pb - free and RoHS/Green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

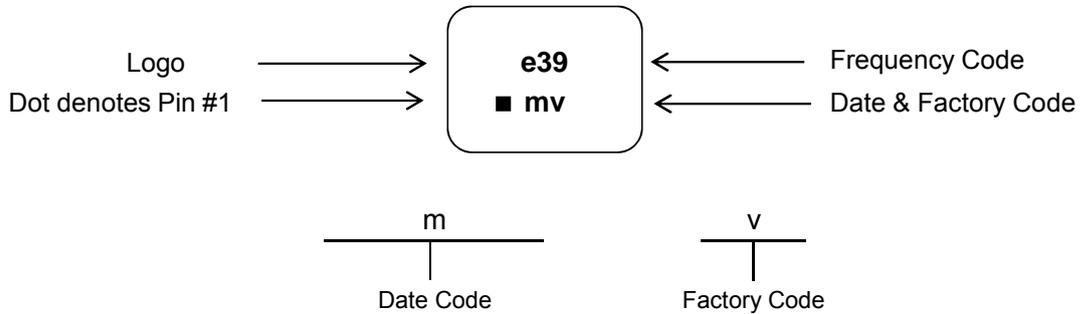
For soldering reflow profile and reliability test ratings go to: <http://www.pericom.com/pdf/sre/reflow.pdf>

TYPE FM 2.0x1.6 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

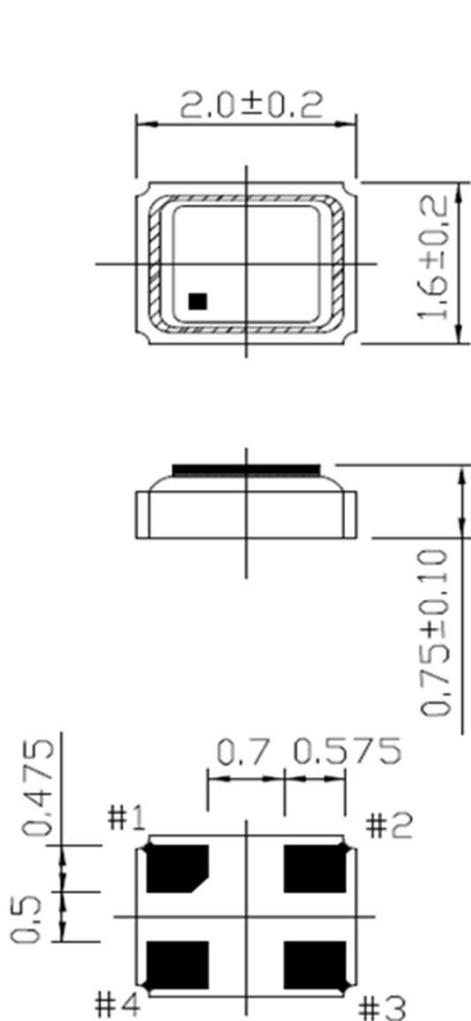
FM3900001Z

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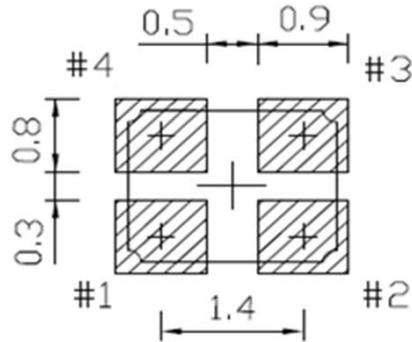
MARKING



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.

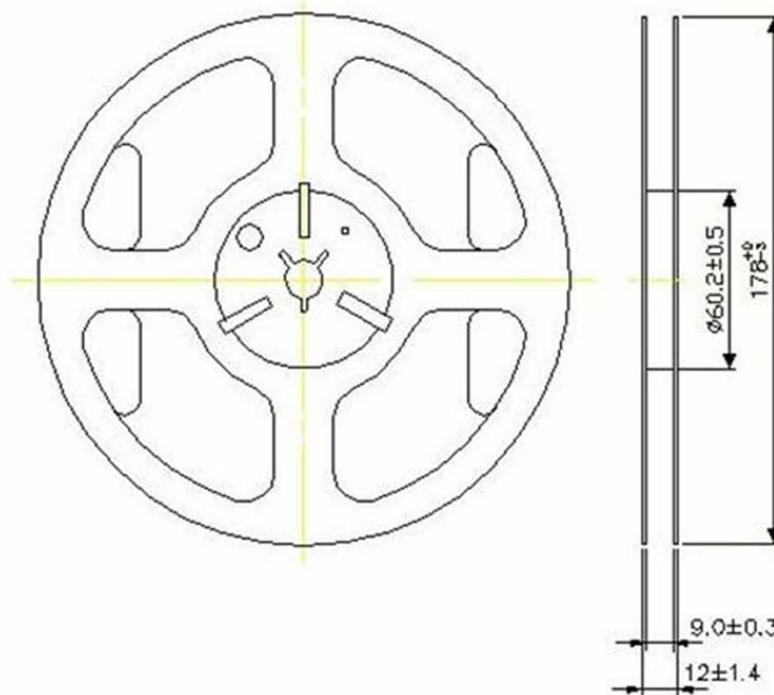
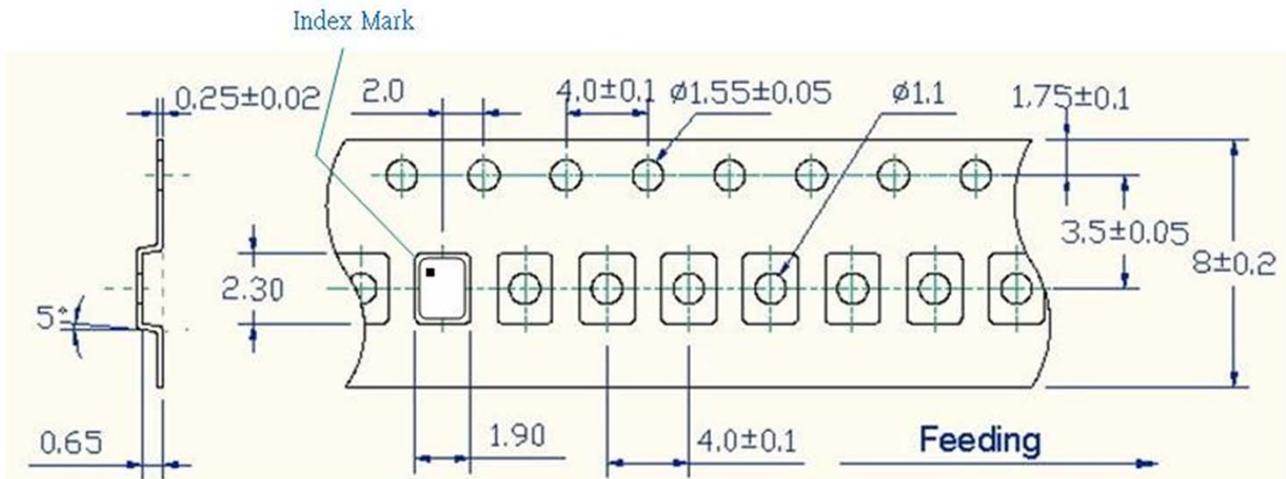
| Pin | Function |
|-----|-----------------|
| 1 | OE |
| 2 | Ground |
| 3 | Clock Output |
| 4 | V _{DD} |

TYPE FM 2.0x1.6 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

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TAPE & REEL



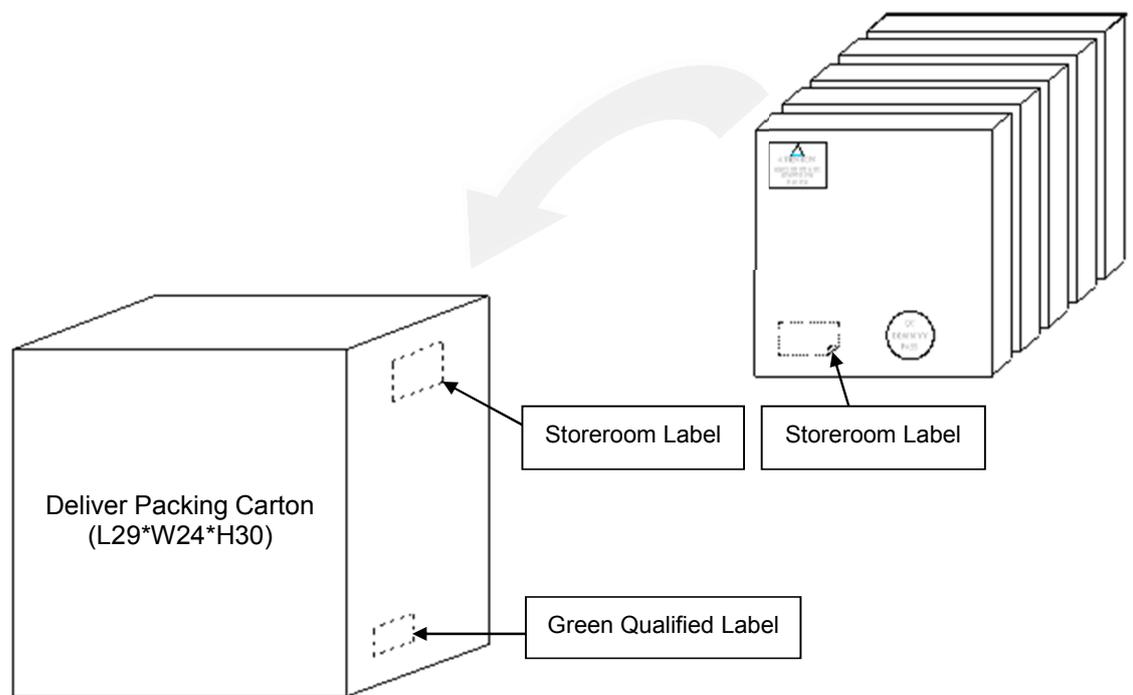
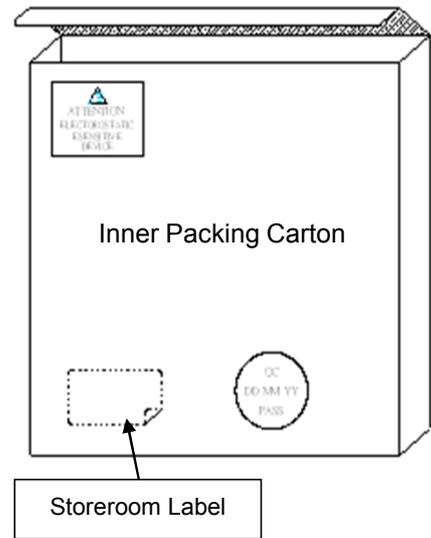
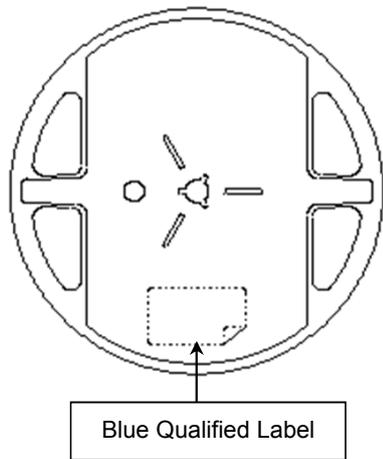
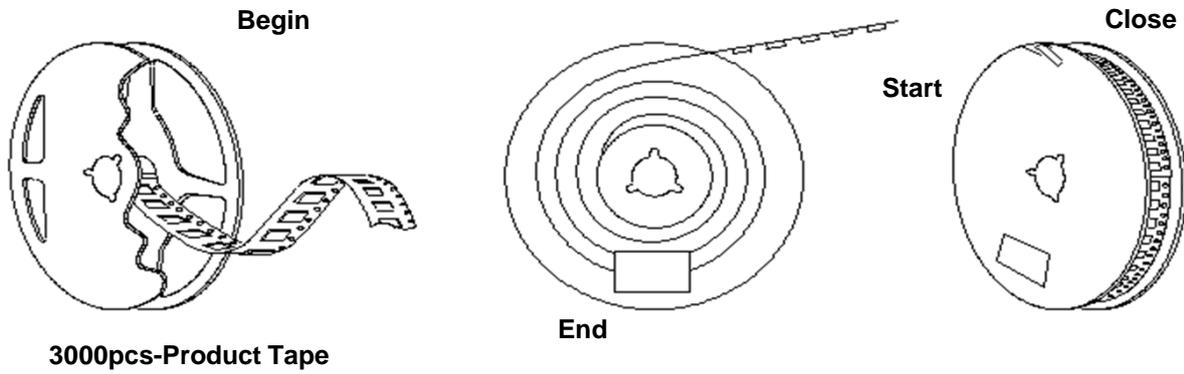
1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

TYPE FM 2.0x1.6 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

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PACKING



Mouser Electronics

Authorized Distributor

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