

PSE Technology Corporation

SPECIFICATION FOR APPROVAL

| CUSTOMER | | | |
|-------------------|-------------------------------------|--|--|
| NOMINAL FREQUENCY | 40.000000 MHz | | |
| PRODUCT TYPE | TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL | | |
| SPEC. NO. (P/N) | FW400WFQA1 | | |
| CUSTOMER P/N | | | |
| ISSUE DATE | June 20, 2016 | | |
| VERSION | Α | | |

| APPROVED | PREPARED | QA |
|---------------------------|-----------------------|-----------|
| Brenda | Nikhi Lu | Dong Jang |
| APPROVED BY | AVL Status | |
| Please return one copy wi | th 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. FW4000027Z

E0-R-4-014 Rev. E Page i

TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL FW400WFQA1

VER. A 20-Jun-16

VERSION HISTORY

| Verision No. | Version Date | Customer Receipt Date | Supplier Receipt Date | Description | Notes |
|-----------------|-----------------|--------------------------|--------------------------|-----------------|-------|
| Α | Jun.20,2016 | | | Initial Release | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

FW400WFQA1

VER. A 20-Jun-16

ELECTRICAL SPECIFICATIONS

| Symbol | Specifications | Units | Notes |
|--------|------------------------|---|---|
| Fn | 40.000000 | MHz | |
| MO | AT Cut-Fundamental | | |
| CL | 7 | pF | |
| FL | ±10 | ppm | at 25°C±3°C |
| TR | -30 to +85 | °C | |
| F/T | ±10 | ppm | Reference to the Frequency at 25°C |
| | 10 | μW | |
| | 100 | μW | Max. |
| ESR | 40 | Ω | Max |
| C0 | 3 | pF | Max |
| | ±3 | ppm | Max, 1st year |
| | -55 to +125 | °C | |
| | 500 | МΩ | Min |
| | Fn MO CL FL TR F/T ESR | Fn 40.000000 MO AT Cut-Fundamental CL 7 FL ±10 TR -30 to +85 F/T ±10 10 100 ESR 40 C0 3 ±3 -55 to +125 | Fn 40.000000 MHz MO AT Cut-Fundamental PF CL 7 pF FL ±10 ppm TR -30 to +85 °C F/T ±10 ppm 10 μW 100 μW ESR 40 Ω C0 3 pF ±3 ppm -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).

TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

FW400WFQA1

VER. A 20-Jun-16

RELIABILITY SPECIFICATIONS

MECHANICAL AND ENVIRONMENTAL RATINGS:

a) FINE LEAK TEST: JESD22-A109 (Condition 1A) $(3x10^{-9} Pa m^3/s)$

b) GROSS LEAK TEST: JESD22-A109 (Condition C)

c) MOISTURE RESISTANCE: JESD22-A113

d) SHOCK: JESD22-B104 (Condition B)

e) SOLDERABILITY: (RoHS version): J-STD-002

f) VIBRATION: JESD22-B103

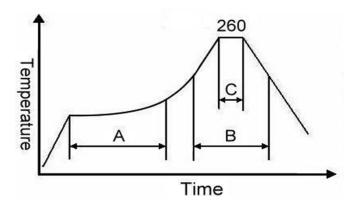
g) SOLVENT RESISTANCE: JESD22-B107

h) RESISTANCE TO SOLDERING HEAT (RoHS version): J-STD-020D Table 5.2 Pb free devices (3 cycles max)

Note:

SUGGESTED IR REFLOW PROFILE

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



| | Stage | Temperature | | |
|-------|---------|-------------|--|--|
| 19201 | 287. 10 | - 12 S | | |

| | Stage | Temperature | Time |
|---|--------------|-------------|------------|
| Α | Preheat | 150~200°C | 60~120 Sec |
| В | Primary Heat | 217°C | 60~150 Sec |
| C | Peak | 260°C | 10 Sec |

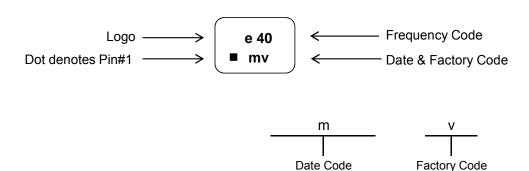
For soldering reflow profile and reliability test ratings go to: http://www.pericom.com/pdf/sre/reflow.pdf

E0-R-4-014 Rev. E Page 2

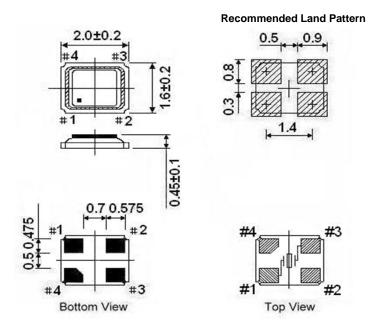
TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL FW400WFQA1

VER. A 20-Jun-16

MARKING



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



** Recommended - Pin 1 & 3: CRYSTAL Pin 2 & 4: GND

Notes:

- 1. Package drawings are for reference only, and the appearances of objects may vary.

 Actual packages are based on the real product.
- 2. The marking dot denotes Pin#1.
- 3. The position and shape of the chamfer pin may vary and are based on the real product.



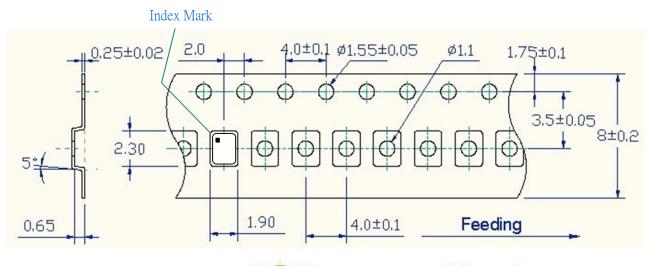
E0-R-4-014 Rev. E Page 3

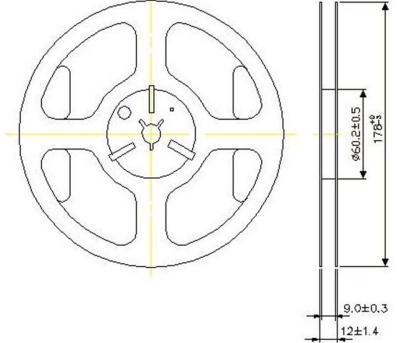
TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL

FW400WFQA1

VER. A 20-Jun-16

Tape & Reel





- 1. 230mm minimum leafer 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.

E0-R-4-014 Rev. E Page 4

TYPE FW 2.0x1.6 SEAM SEALED CRYSTAL FW400WFQA1 VER. A 20-Jun-16 **PACKING Begin** Start **End** 3000pcs-Product Tape Inner Packing Carton Storeroom Label Blue Qualified Label Storeroom Storeroom Label Deliver Packing Carton (L29*W24*H30) Green Qualified Label



E0-R-4-014 Rev. E Page 5