

SMD CRYSTAL UNIT SPECIFICATIONS

| | |
|--------------------------|---------------------------|
| Customer | |
| Customer P/N | |
| Product | 2016 Seam Sealing Crystal |
| Nominal Frequency | 25.000000MHz |
| HOSONIC P/N | E1SB25E00000UE |
| Version | 10C0 |
| Issue Date | 2020/6/10 |

| HOSONIC | | |
|----------------|----------------|-----------------|
| Drawn | Checked | Approved |
| LUCY | ZOE | JOHN |

Approved By Customer : _____



HOSONIC ELECTRONIC CO., LTD.



Revised Record

| Rev. | Rev. Date | Item | Content | Remark |
|------|------------|------|------------------|--------|
| 1.0 | 2020-06-10 | | Initial released | |

- ELECTRICAL PARAMETERS**

Electrical characteristics measured by S&A250B or equivalent.

| No. | Item | Symb. | Electrical Specification | | | | Remark |
|-----|--|------------------|--------------------------|------|------|-------|-----------------------|
| | | | Min. | Typ. | Max. | Units | |
| 1 | Nominal Frequency | F0 | 25.000000 | | | MHz | |
| 2 | Mode of Vibration | | Fundamental | | | | |
| 3 | Frequency Tolerance | $\Delta F/F0$ | -10 | - | 10 | ppm | At 25°C±3°C |
| 4 | Operating Temperature Range | T _{OPR} | -30 | - | 85 | °C | |
| 5 | Frequency Stability (over operating temperature) | TC | 10 | - | 10 | ppm | Ref. to 25°C |
| 6 | Storage Temperature | T _{STG} | -55 | - | 125 | °C | |
| 7 | Load capacitance | CL | - | 8 | - | pF | |
| 8 | Equivalent Series Resistance | ESR | - | - | 100 | Ω | |
| 9 | Drive Level | DL | - | 50 | 100 | μW | |
| 10 | Insulation Resistance | IR | 500 | - | - | MΩ | At 100V _{DC} |
| 11 | Shunt Capacitance | C0 | - | - | 2 | pF | |
| 12 | Aging Per Year | Fa | -2 | - | 2 | ppm | First Year |
| 13 | Package type | E1SB | | | | | |

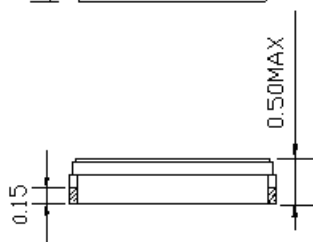
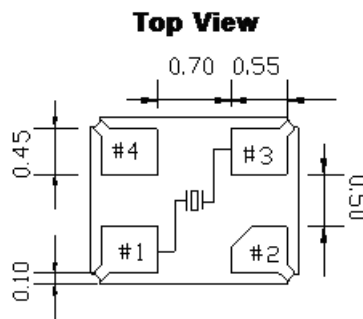
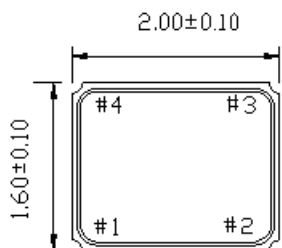
NOTE: Storage Temperature is only for the product itself, the temperature for the packing material is -4~40°C.

- STORAGE REQUIRMENT**

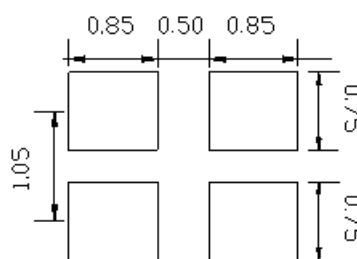
Storage environmental conditions: -4~40°C, 70%RH max.

Maximum storage time: 24 Months from date of manufacture.

● **OUTLINE DIMENSIONS (UNIT: mm)**



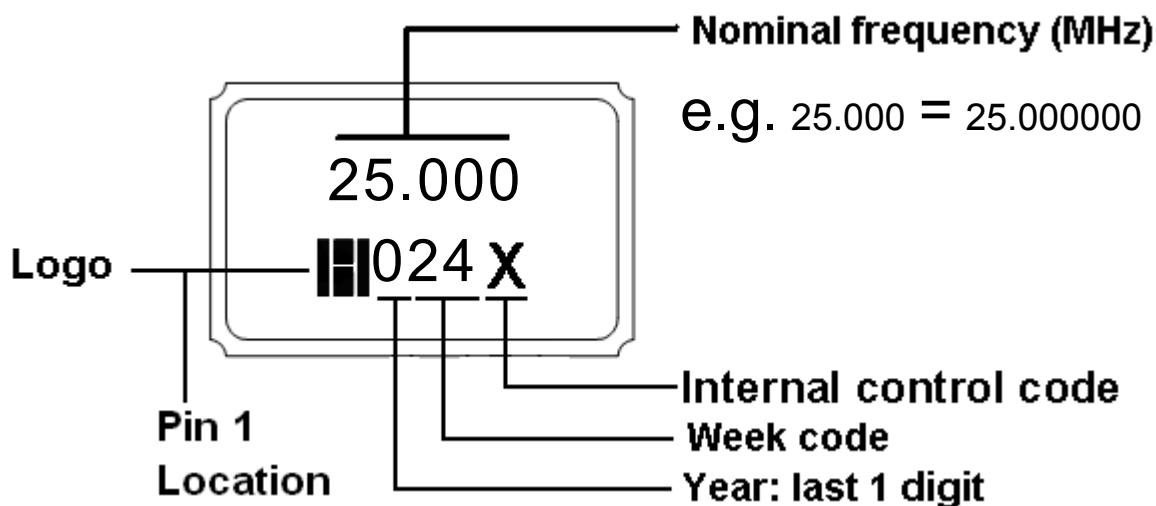
Recommended Solder Pattern

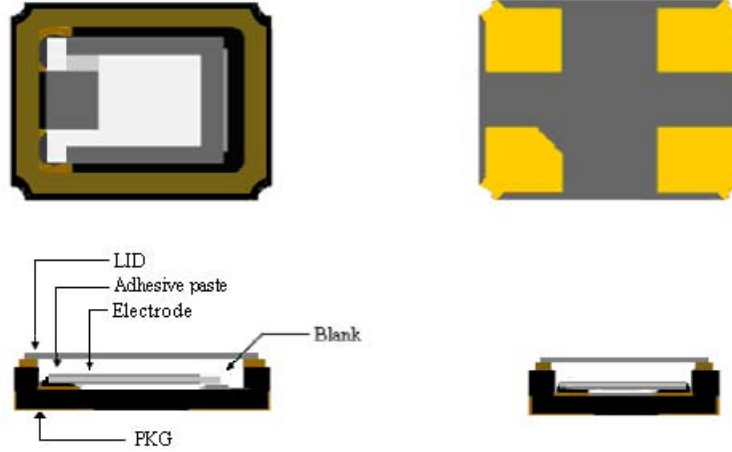


| Pin | Connection |
|-------|------------|
| #1,#3 | X'tal |
| #2,#4 | GND |

*unlabeled tolerance: ± 0.1mm

● **MARKING:**



● PRODUCT LAYOUT


| NO. | PART | MATERIAL | REMARK |
|-----|----------------|--------------------------------|---------|
| 1 | LID | KOVAR(Fe+Co+Ni alloy) | |
| 2 | PKG | Al ₂ O ₃ | Base |
| 3 | Blank | SiO ₂ | Quartz |
| 4 | Adhesive paste | Ag/Silicon | Support |
| 5 | Electrode | Noble metal | |

REFLOW PROFILES

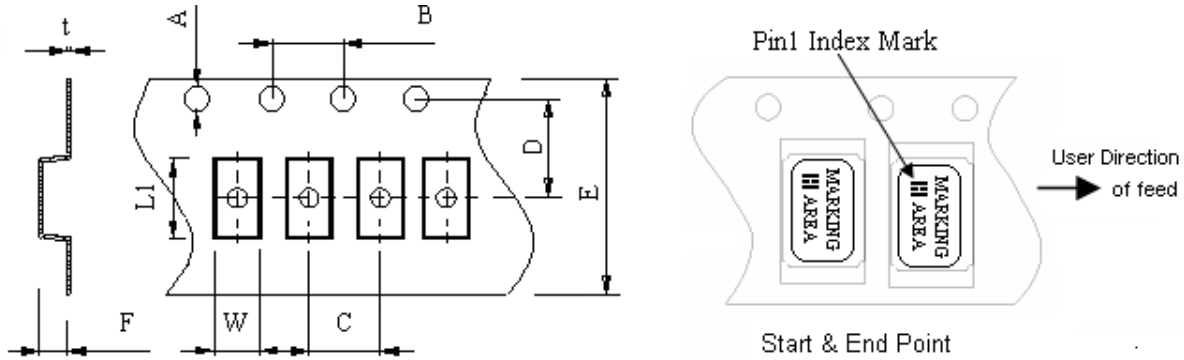
| Profiles Feature | Pb-Free Assembly |
|--|--------------------|
| Average Ramp-up Rate (Ts max to Tp) | 3°C/second max. |
| Preheat | |
| ■ Temperature Min (Ts min) | 125°C |
| ■ Temperature Max (Ts max) | 200°C |
| ■ Time (ts min to ts max) | 60~180 seconds |
| Time maintained above | |
| ■ Temperature (T _L) | 217°C |
| ■ Time (t _L) | 60~150 seconds |
| Peak/Classification Temperature (Tp) | 260°C |
| Time within 5°C of actual Peak Temperature (t _p) | 20~40 seconds |
| Ramp-down rate | 6°C/second max. |
| Time 25°C to Peak Temperature | 8 minutes max. |
| Suggest reflow times | 3 Times max |



Remark: To reference JEDEC J-STD-020

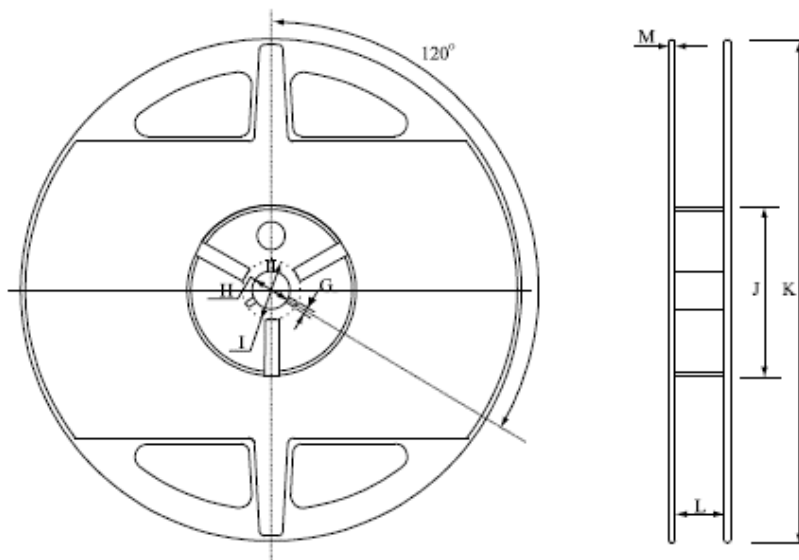
● **PACKAGE(reference to EIA-481)**

Tape Dimensions(unit : mm)



| A | B | C | D | E | F | L1 | W | t |
|------|-----|-----|-----|-----|------|------|------|-----|
| 1.50 | 4.0 | 4.0 | 3.5 | 8.0 | 0.65 | 2.25 | 1.85 | 0.2 |

Reel Dimensions(unit: mm)



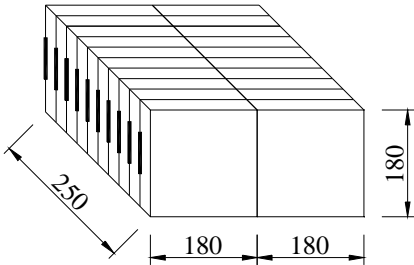
| G | H | I | J | K | L | M |
|-----|------|------|------|-----|-----|-----|
| 2.5 | 13.5 | 21.6 | 60.0 | 178 | 9.5 | 1.6 |

*3000pcs/Reel

Carton Dimension (unit : mm)



1 reel = 1 Inner box



20 Inner boxes = 1 Carton

60kpcs = 1 Carton

● **RELIABILITY SPECIFICATIONS**

| No. | Test Item | Test Conditions | Reference |
|-----|---|--|---------------------------|
| 1 | High Temperature Storage | Temperature: $125^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Time: 1000 ± 12 Hours | MIL-STD-202 Method 108 |
| 2 | Temperature Cycle | Temperature 1: $-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Temperature 2: $125^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Temperature change between T1 and T2 at soonest Run 1000 cycles, maintain T1 and T2 5minutes each in one cycle | JESD22 Method JA-104 |
| 3 | Solder Heat Resistance | Pre-heat: 125°C 60~120 Seconds Solder Temperature: $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Time: 30 Seconds | MIL-STD-202 Method 210 |
| 4 | Drop Test | 3 Times Free Fall from 150cm height to concrete floor. | IEC 68-2-32 |
| 5 | High Temperature, High Humidity Storage | Temperature: $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Relative Humidity: 80%--85% Time: 250Hours ± 12 Hours | MIL-STD-202 Method 103 |
| 6 | Steam Aging | Temperature: $97^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Time: 24 Hours 260°C solder pot to check solderability | J-STD-002 |
| 7 | Solderability | Dip in flux 5~10 seconds Temperature: $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Time: 10 Seconds | J-STD-002 |
| 8 | Aging | Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Time: 250 ± 12 Hours | MIL-STD-202 Method 108 |
| 9 | Thermal Shock | Temperature 1: $-55^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Temperature 2: $125^{\circ}\text{C} \pm 3^{\circ}\text{C}$ Temperature change between T1 and T2: 5 seconds 100 cycles, maintain T1 and T2 for 30 minutes each in one cycle | MIL-STD-202 Method 107 |
| 10 | Vibration | Frequency Range: 10Hz~2000Hz Amplitude: 1.5mm or 20G 4Hours in each direction, total 12Hours | MIL-STD-202 Method 204 |

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Crystals](#) category:

Click to view products by [Hosonic](#) manufacturer:

Other Similar products are found below :

[CX3225GB25000M0PPSZ1](#) [718-13.2-1](#) [7A-40.000MAAE-T](#) [FL2000085](#) [99-BU](#) [9B-15.360MBBK-B](#) [9C-7.680MBBK-T](#) [H10S-12.000-18-EXT-TR](#) [ABC2-6.000MHZ-D4Z-T](#) [ABLS-20.000MHZ-D2-T](#) [ABS071-32.768KHZ-6-T](#) [R38-32.768-12.5-5PPM-NPB](#) [BTD1062E05A-513](#) [21U15A-21.4MHZ](#) [RTX-781DF1-S-20.950](#) [LFXTAL066198Cutt](#) [9C-14.31818MBBK-T](#) [A-11.000MHZ-27](#) [ABL-27.000MHZ-B4Y-T](#) [ABM11-132-24.000MHZ-T3](#) [ABM3B1-25.000MHZ-D2Y-T](#) [SPT2A-.032768B](#) [SPT2A.032768G](#) [SSPT7F-9PF20-R](#) [LFXTAL065253Cutt](#) [LFXTAL066431Cutt](#) [XT9S20ANA14M7456](#) [XT9SNLANA16M](#) [7A-24.576MBBK-T](#) [7B-30.000MBBK-T](#) [MMCC2R32.7680KHZ](#) [7A-14.31818MBBK-T](#) [6504-202-1501](#) [6526-202-1501](#) [ABLS-12.000MHZ-B2Y-T](#) [7A-10.000MBBK-T](#) [SG636PCE-20.000MC](#) [3404](#) [E1SAA18-25.000M TR](#) [CM315D32768EZFT](#) [C1E-24.000-7-2020-R](#) [C1E-19.200-12-1530-X-R](#) [C1E-16.000-12-1530-X-R](#) [ABM11-16.000MHZ-9-B1U-T](#) [FL5000014](#) [EUCA18-3.1872M](#) [FX0800015](#) [425F35E027M0000](#) [FP0800018](#) [MS3V-T1R-32.768kHz-7pF-20PPM-TA-QC-Au](#)