

## 承 认 书

SPECIFICATION FOR APPROVAL

客户名称: Customer \_\_\_\_\_

货 名: Description \_\_\_\_\_ SMD3225 石英晶体谐振器

客户料号: Part No \_\_\_\_\_

物料编号: Code No \_\_\_\_\_ S3218080141060

频 率: Frequency \_\_\_\_\_ 18.080MHZ

日 期: Date \_\_\_\_\_ 2023-04-18

备 注: RoHS compliance with Directive (EU) 2015/863

|                |              |                 |
|----------------|--------------|-----------------|
| 制作(Prepare by) | 检查(Check by) | 批准 (Approve by) |
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|                             |  |
|-----------------------------|--|
| 客户批准<br>Approve by customer |  |
| 批准日期<br>Approval date       |  |

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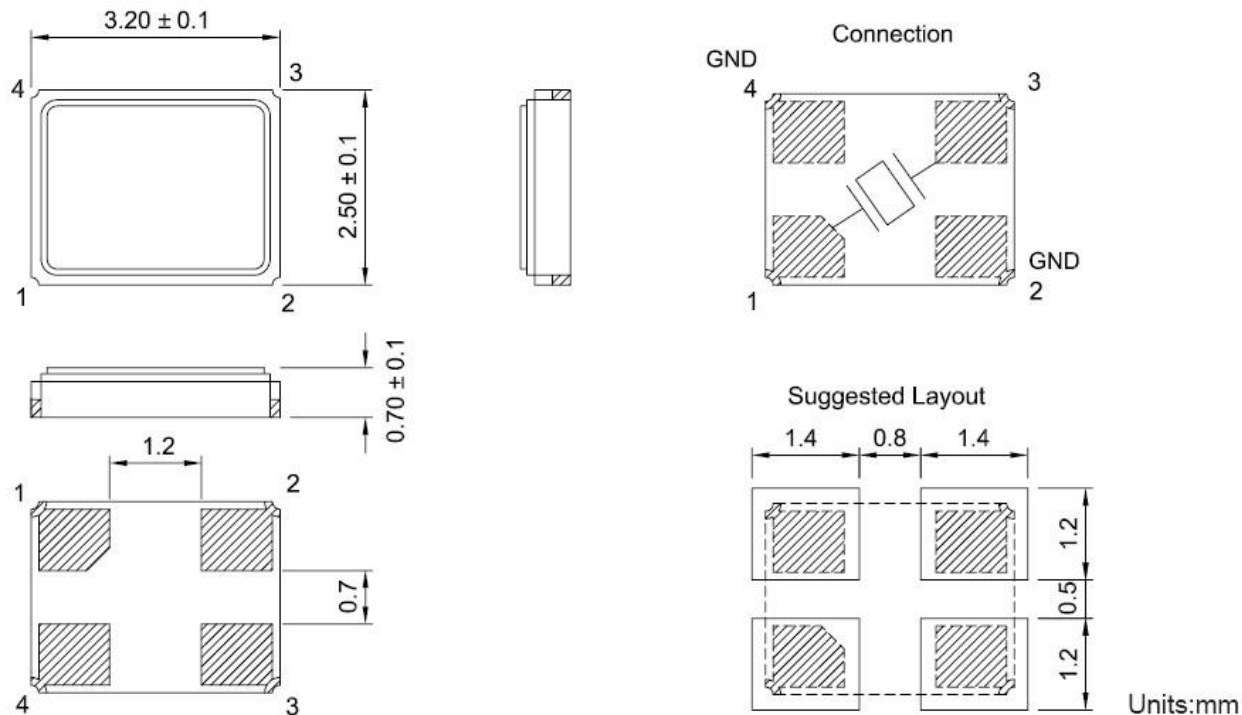
## 1、 Specifications

|    |                                      |                              |
|----|--------------------------------------|------------------------------|
| 1  | 规格型号 Holder Type                     | SMD3225                      |
| 2  | 标称频率 Nominal Frequency               | 18.080MHz                    |
| 3  | 振动模式 Mode of Oscillation             | Fundamental                  |
| 4  | 调整频差 Frequency Tolerance at 25℃      | ±10ppm                       |
| 5  | 温度频差 Temperature Frequency Stability | ±30ppm                       |
| 6  | 工作温度 Operating Temperature Range     | -40~85℃                      |
| 7  | 贮存温度 Storage Temperature Range       | -40~125℃                     |
| 8  | 负载电容 Load Capacitance                | 14 pF                        |
| 9  | 静电容 Shunt capacitance                | ≤5 pF                        |
| 10 | 等效电阻 Equivalent Series Resistance    | 80 Ω Max                     |
| 11 | 激励功率 Drive Level                     | 100uw Max                    |
| 12 | 绝缘阻抗 Insulation Resistance           | 500MΩ/100V±15V <sub>DC</sub> |
| 13 | 老化率 Aging                            | ±3ppm/First year             |
| 14 | 测试仪器 Test machine                    | 250B                         |

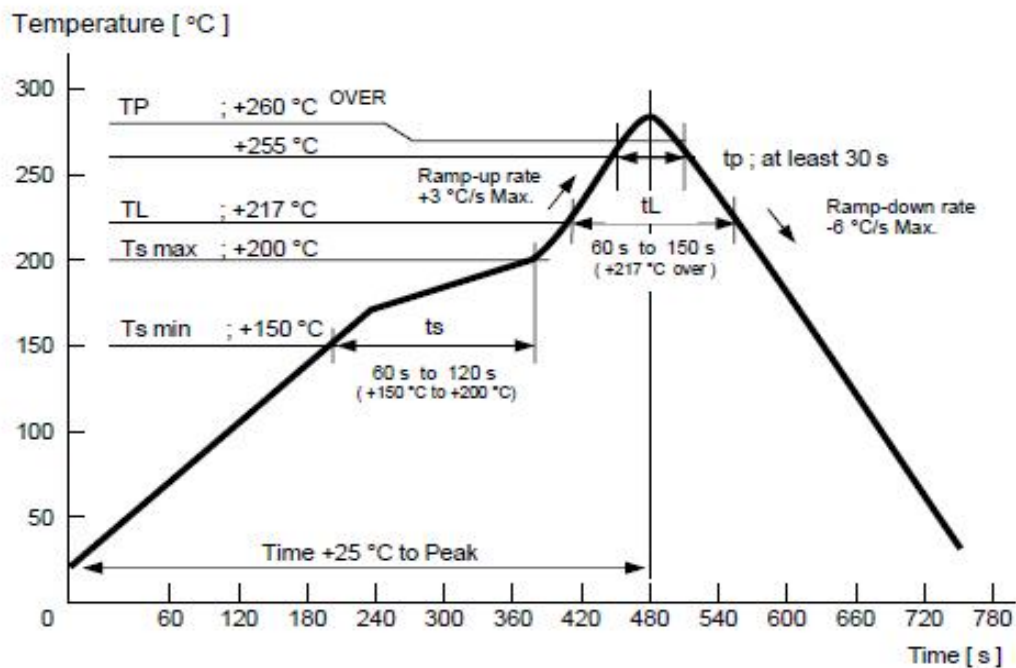
## 2. Frequency stability over temperature range (AT cut)

| Temperature Range | Frequency Stability |       |         |        |        |        |        |        |
|-------------------|---------------------|-------|---------|--------|--------|--------|--------|--------|
|                   | ±3PPM               | ±5PPM | ±7.5PPM | ±10PPM | ±20PPM | ±30PPM | ±50PPM | ±70PPM |
| 0℃~+50℃           | ☆                   | ☆     | ☆       | ☆      | ☆      | ☆      | ☆      | ☆      |
| -10℃~+60℃         |                     |       | ☆       | ☆      | ☆      | ☆      | ☆      | ☆      |
| -20℃~+70℃         |                     |       |         | ☆      | ☆      | ☆      | ☆      | ☆      |
| -30℃~+70℃         |                     |       |         |        | ☆      | ☆      | ☆      | ☆      |
| -40℃~+85℃         |                     |       |         |        |        | ☆      | ☆      | ☆      |
| -40℃~+125℃        |                     |       |         |        |        |        | ☆      | ☆      |

### 3. Dimensions (unit:mm)



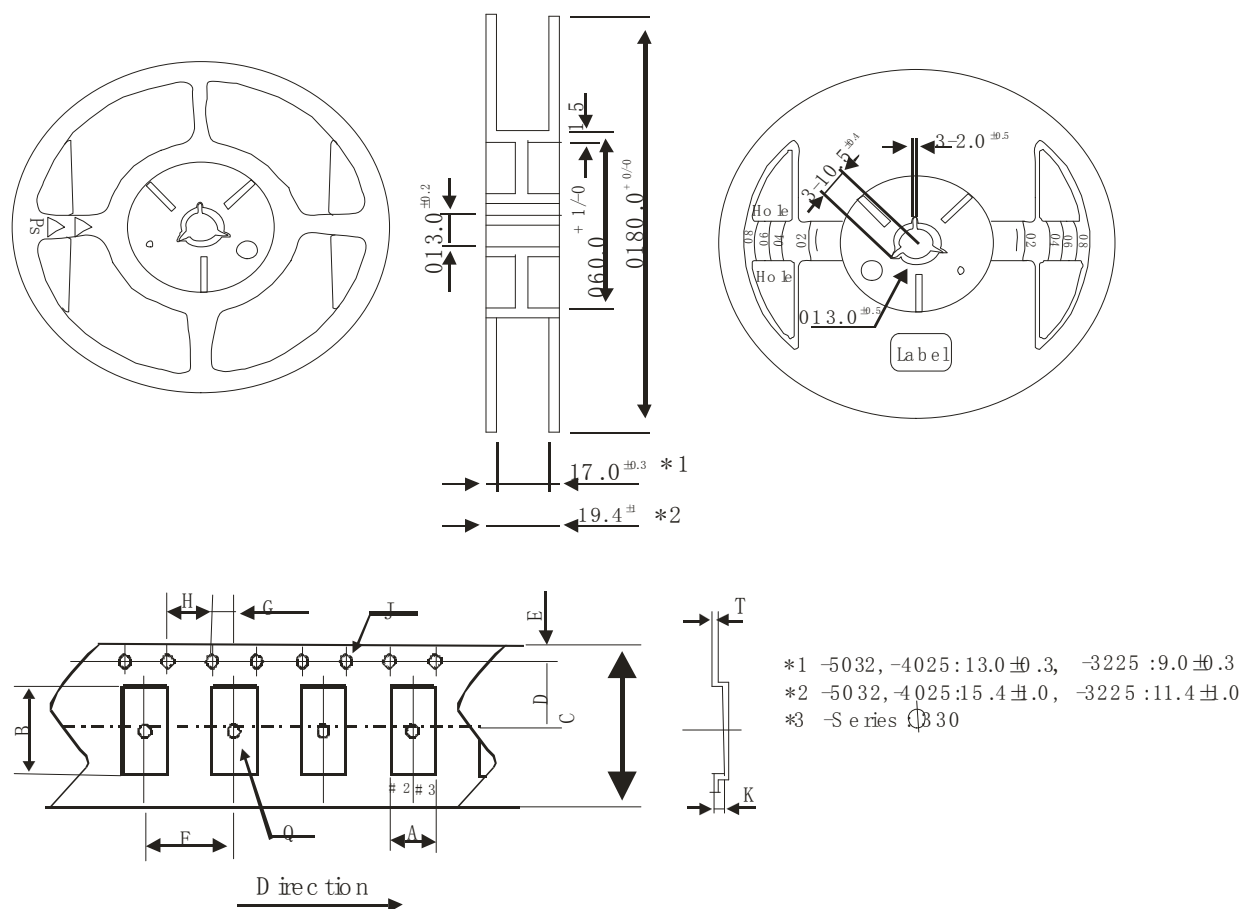
### 4.Recommended Reflow profile



## 5. Reliability specifications

| NO | Item                         | Condition                                                                                                                                  | Standard                                                        |
|----|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| 1. | Drop Test                    | Free drop from 75 cm height on a hard wooden board for 3 times. (Board is thickness more than 30 mm.)                                      | Frequency change:<br>$\leq 5\text{ppm}$<br>Rr as specification  |
| 2. | Mechanical Shock             | Half sine wave, 1000G, 0.5mS, three times for all 3 directions                                                                             | Frequency change:<br>$\leq 5\text{ppm}$<br>Rr as specification  |
| 3. | Vibration                    | Frequency range:10~55hz<br>Amplitude:1.52mm<br>Sweep time:1mintutes<br>perpendicular axes each test time:2Hrs                              | Frequency change:<br>$\leq 5\text{ppm}$<br>Rr as specification  |
| 4. | Solderability                | Temperature:245℃ $\pm$ 5℃<br>Immersing depth:0.5mm minimum<br>Immersion time:5 $\pm$ 1sec.<br>Flux:Rosin resin methyl alcohol solvent(1:4) | 90% exhibit tin ok                                              |
| 5. | Resistance to soldering heat | Test temperature:260℃ $\pm$ 5℃<br>Test time :10 $\pm$ 1sec.                                                                                | Frequency change:<br>$\leq 10\text{ppm}$<br>Rr as specification |
| 6. | High Temp & Humidity         | 85 $\pm$ 3℃ & RH85%, 500 $\pm$ 12 hours                                                                                                    | Frequency change:<br>$\leq 10\text{ppm}$<br>Rr as specification |
| 7. | Low temperature storage      | -40 $\pm$ 3℃, 500 $\pm$ 12 hours                                                                                                           | Frequency change:<br>$\leq 10\text{ppm}$<br>Rr as specification |
| 8. | High temperature storage     | +85 $\pm$ 3℃, 500 $\pm$ 12 hours                                                                                                           | Frequency change:<br>$\leq 10\text{ppm}$<br>Rr as specification |
| 9. | Temperature cycling          | -40 $\pm$ 3℃/10min~+85 $\pm$ 3℃/10min, 100cycles                                                                                           | Frequency change:<br>$\leq 10\text{ppm}$<br>Rr as specification |

## 6、Packaging standard

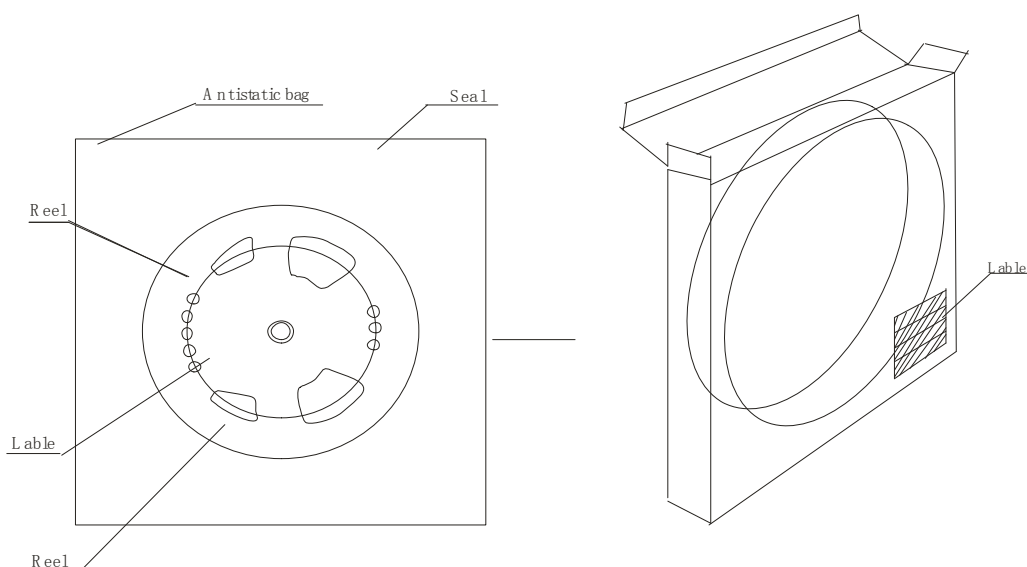


- Standard quantity of SMD -3225 : 3,000 pcs/reel
- Standard quantity of SN -Series : 4,000 pcs/reel
- Standard quantity of others : 1,000 pcs/reel
- Carrier tape : Antistatic material (PS)
- Each reel can be recycled

|   | SMD-7050<br>SN-7050 | SMD-6032<br>SN-6032 | SMD-5032  | SMD -5032 | SMD-4025   | SMD-3225   |
|---|---------------------|---------------------|-----------|-----------|------------|------------|
| A | 5.4±0.1             | 3.9±0.1             | 3.5±0.1   | 3.5±0.1   | 2.9±0.1    | 2.9±0.1    |
| B | 7.4±0.1             | 6.4±0.1             | 5.4±0.1   | 5.4±0.1   | 4.4±0.1    | 3.6±0.1    |
| C | 16.0±0.2            | 16.0±0.2            | 12.0±0.2  | 12.0±0.2  | 10.0±0.2   | 8.0±0.2    |
| D | 7.5±0.1             | 7.5±0.1             | 5.5±0.1   | 5.5±0.1   | 5.5±0.1    | 5.5±0.1    |
| E | 1.75±0.1            | 1.75±0.1            | 1.75±0.1  | 1.75±0.1  | 1.75±0.1   | 1.75±0.1   |
| F | 8.0±0.1             | 8.0±0.1             | 8.0±0.1   | 8.0±0.1   | 4.0±0.1    | 4.0±0.1    |
| G | 2.0±0.1             | 2.0±0.1             | 2.0±0.1   | 2.0±0.1   | 2.0±0.1    | 2.0±0.1    |
| H | 4.0±0.1             | 4.0±0.1             | 4.0±0.1   | 4.0±0.1   | 4.0±0.1    | 4.0±0.1    |
| J | 1.55±0.05           | 1.55±0.05           | 1.5±0.1/0 | 1.5±0.1/0 | 1.5±0.1/0  | 1.5±0.1/0  |
| K | 1.4±0.1             | 1.5±0.1             | 1.0±0.1   | 1.5±0.1   | 0.9±0.1    | 0.9±0.1    |
| Q | 1.6±0.1/0           | 1.55±0.05           | 1.6±0.1   | 1.6±0.1   | 1.5±0.1/0  | 1.5±0.1/0  |
| T | 0.3±0.05            | 0.3±0.05            | 0.25±0.05 | 0.25±0.05 | 0.25±0.05s | 0.25±0.05s |

| Item         |               | Empty Space    |
|--------------|---------------|----------------|
| Tape Leader  | Cover Tape    | Min.500mm      |
|              | Empty Pockets | Min.20 pockets |
| Tape Trailer | Cover Tape    | Min.0mm        |
|              | Empty Pockets | Min.40mm       |

## 7. Inner carton



### 7-1. MARKING

- (1) Marking Labels are affixed to reel, inner carton and outer carton.
- (2) Each label contains the following information.
  - (a) Manufacture's name or symbol
  - (b) Parts name or type
  - (c) Frequency
  - (d) Quantity
  - (e) Reel number
  - (f) Manufacturer's code (EIAJ code)

### 7-2. QUANTITY

3000pcs/reel

### 7-3. STORAGE ENVIRONMENT

- ✧ Storage the reel at normal temperature and humidity
- ✧ Open the packing just before using
- ✧ Do not expose the sun
- ✧ Do not storage with some erosive chemicals
- ✧ Nothing is allowed to put on the reel or carton to prevent mechanical damage

### 7-4. HANDLING

- ✧ Handle with care to prevent the damage of tape, reel and products.