JYEG Tong fang Guoxin Electronics Co.,Ltd

ROHS COMPLIANT

# APPROVAL SHEET

Customer :

Part Number:

JYEG Part No.: JYD3A1C3C4-10-26.000

Holder : SMD3225

Frequency: 26.000MHZ

Manufacturer: Jingyuan Electronics

Date: 2016/05/03

| Prepared | Checked | Approved |
|---|---|---|
| Yang Tiesheng | Hao Jianjun | Zhang Liqiang |

**(For Customer Use)**

| Acceptable | Non-Acceptable |
|---|---|
| | |

# Revision History

| No. | Revised Date | Change Content | Approved | Remark |
|---|---|---|---|---|
| | | | | |
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| | | | | |
| | | | | |

**1.This specification applies to SMD quartz crystal unit with a frequency of 26.000MHz.**

**2. Electrical characteristics**

| PARAMETER | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Normal Frequency Range | $F_n$ | - | - | 26.000 | - | MHz |
| Order of vibration | Fundamental | | | | | |
| Load capacitance | CL | - | - | 100 | - | pF |
| Initial Frequency Accuracy | FL | - | -10 | - | 10 | ppm |
| Resonance resistance | RR | - | - | - | 60 | Ω |
| Drive level | DL | - | - | 100 | - | μW |
| Shunt capacitance | C0 | - | - | - | 7 | pF |
| Insulation resistance | IR | DC 100V | 500 | - | - | MΩ |
| DLD | DLD2 | 0.01—100 uW (10points) | - | - | - | Ω |
| | FDLD | | - | - | - | ppm |
| | RLD2 | | - | - | - | Ω |
| | DLDH2 | | - | - | - | Ω |
| | FDLDH | | - | - | - | ppm |
| Motional capacitance | C1 | - | - | - | - | fF |
| Inductance | L | - | - | - | - | mH |
| Trim sensitivity | TS | - | - | - | - | ppm/pF |
| Autoeciousness | SPDB | ±5300PPM of nominal Freq | - | - | -3.0 | dB |
| Operating temperature range | T1 | ±10PPM | -10 | - | 60 | ℃ |
| Storage temperature range | - | - | -40 | - | 85 | ℃ |
| Aging | - | - | -5 | - | 5 | ppm |

## 3. Construction

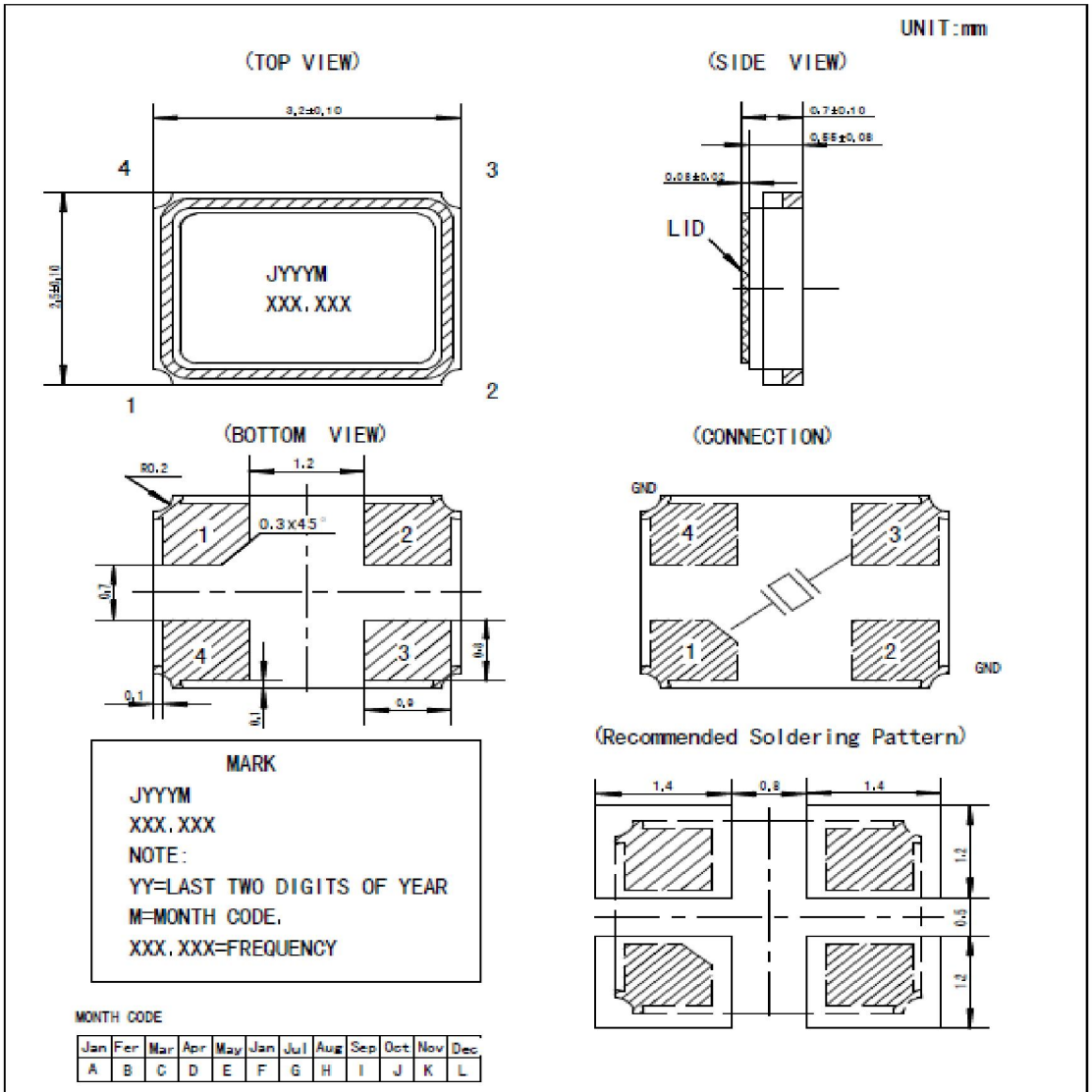
3.1 Crystal enclosure seal:

■ Seam seal ☐ resistance weld ☐ cold weld

3.2 crystal enclosure medium

☐ nitrogen ■ vacuum ☐ dry air

**4.Dimension:**

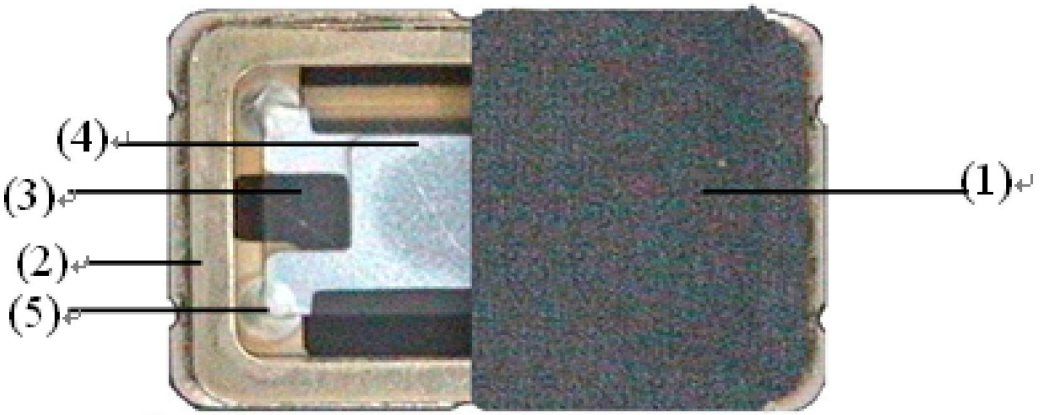


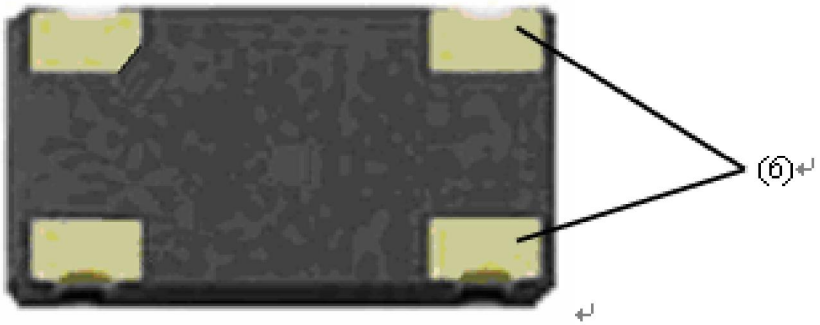

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | 同方国芯-晶源电子 |
| V1.0 | 初版 | | 2012-8-1 | | | |
| 版 本 | 修改内容 | 批 准 | 日 期 | | | SMD3225产品尺寸图 |
| 设 计 | | 2012-8-1 | 阶段标记 | 重量 | 比例 | |
| 审 核 | | 2012-8-1 | | | 16:1 | JY/TS2-0011-JL0918 |
| 批 准 | | 2012-8-1 | 共1张 | 第1张 | | |

**5. Marking**

■ Laser Marking ☐ Ink Marking

**6.Inside Structure**



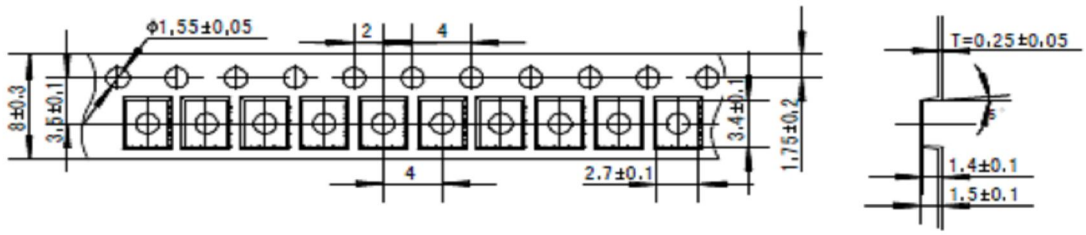

| No. | Name | Material |
|---|---|---|
| (1) | Can | Fe-Co-Ni |
| (2) | Base | Ceramic |
| (3) | Blank | Quartz |
| (4) | Electrode | Ag |
| (5) | Epoxy | Silicon based |
| (6) | Soldering Pads | Au plated |

## 7.Taping Dimension and Packing Instruction

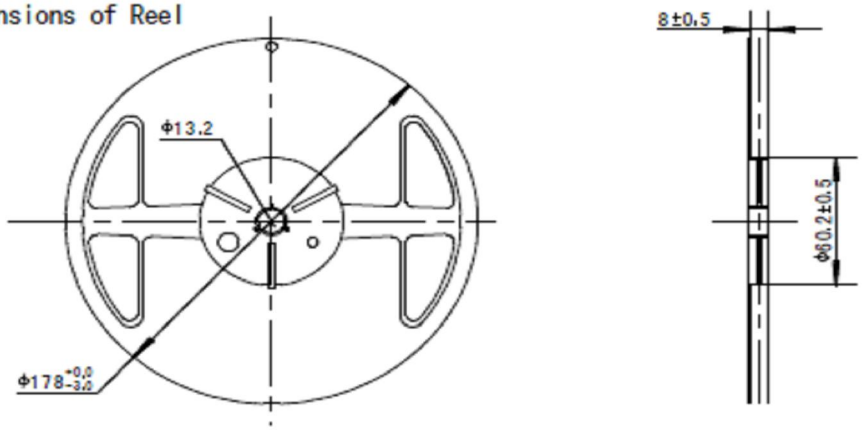
7.1

UNIT:mm

1.Dimensions of Carrier Tape

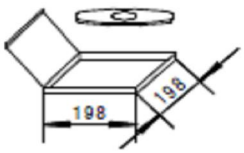



2.Dimensions of Reel

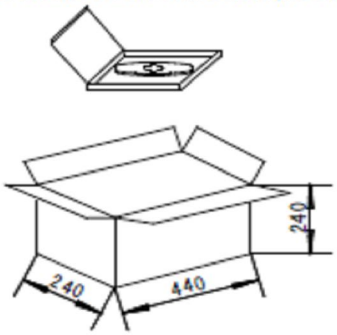



3,Packing

1 reel/box 1 reel=3000pcs




10 boxes/carton(the carton with bubble pad on four sides)




| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | 同方国芯-晶源电子 |
| V1.0 | 初版 | | 2012-8-1 | | | | |
| 版 本 | 修改内容 | 批 准 | 日 期 | | | | SMD3225-8-G包装尺寸图 |
| 设 计 | | | 2012-8-1 | 阶段标记 | 重量 | 比例 | |
| 审 核 | | | 2012-8-1 | | | 2:1 | JY/TS2-011-JL2019 |
| 批 准 | | | 2012-8-1 | 共1张 第1张 | | | |

7.2

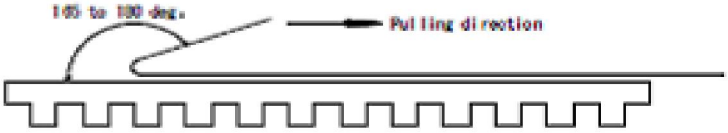
.Release strength of cover tape

It has to between 30g to 90g under following condition.

Pulling direction : 165 deg. to 180 deg.

Speed : 300mm/min.

Otherwise unless specified.



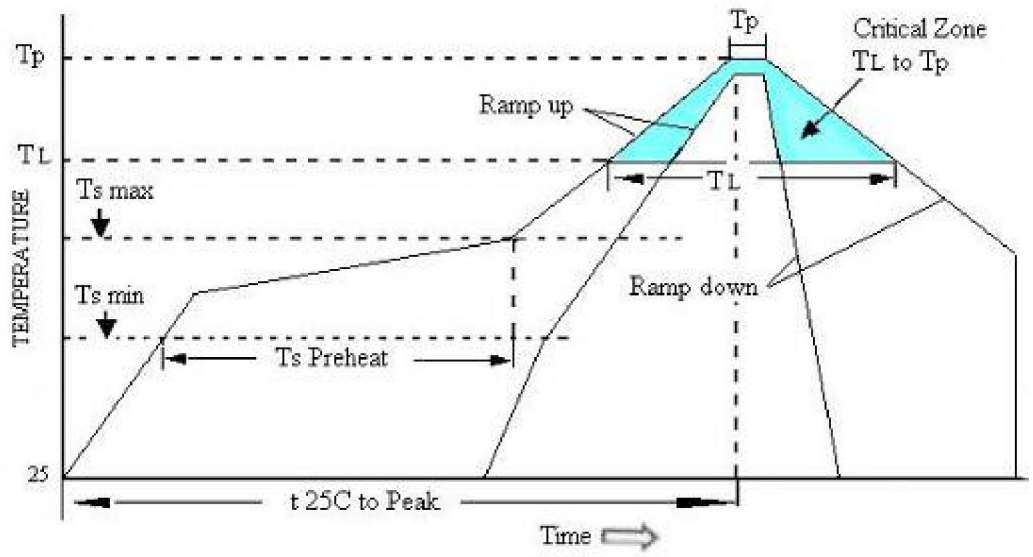

**8.Reliability characteristic:**

| | Item | Condition | Specifications |
|---|---|---|---|
| 8.1 | Solderability | Solder bath temperature:260℃ , dwell time:5 seconds, Solder: 100% tin | A new uniform coating of solder shall cover a minimum of 95% of the surface being immersed. |
| 8.2 | Resistance to soldering heat | Solder temperature 260+/-3℃,Immersion time:10 S Solder bath composition:100% tin | △F≤+/-5ppm<br>△R≤+/-15%+3Ω |
| 8.3 | Vibration | The entire frequency range: 10Hz to 55Hz ,Amplitude:1.5mm<br>This motion shall be applied for a period of 2 h in each of 3 mutually perpendicular axes(a total of 6h) | △F≤+/-5ppm<br>△R≤+/-15%+3Ω |
| 8.4 | Drop test | Drop from 75cm height on 3cm hard wooden board for 6 times | △F≤+/-5ppm △ R≤+/-15%+3Ω |
| 8.5 | Cold Storage | The quartz crystal unit shall be stored at a temperature of –40+/-3℃ for 1000 h.then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made. | △F≤+/-5ppm<br>△R≤+/-15%+3Ω |
| 8.6 | High temperature high humidity storage (steady state) | The quartz crystal unit shall be stored at a temperature of 40+/-2℃ with relative humidity of 95% for 1000h, then it shall be subjected to standard atmospheric conditions for 2h after which measurement shall be made. | △F≤+/-5ppm<br>△R≤+/-15%+3Ω |

<table>
<tr><td>8.7</td><td>Thermal shock</td><td>The quartz crystal unit shall be subjected to 50 successive<br>Change of temperature cycles. Each as shown in table below ,then it shall be subjected to standard atmospheric conditions for 1h after which measurement shall be made.<br><table><tr><td></td><td>Temperature</td><td>Duration</td></tr><tr><td>1</td><td>-40+/-3℃</td><td>15minutes</td></tr><tr><td>2.</td><td>100+/-2℃</td><td>15minutes</td></tr><tr><td>3.</td><td>Transition time</td><td>Within 10 seconds</td></tr></table></td><td>△F≤+/-5ppm<br>△R≤+/-15%+3Ω</td></tr>
<tr><td>8.8</td><td>Sealing</td><td>Helium leakage detector shall used to measure the leakage rate of gas through any faulty seal. Pressure:500Kpa, duration:120 minutes</td><td>Leakage rate≤ $1*10^{-9}$ $Pa.m^3/S$</td></tr>
<tr><td>8.9</td><td>High temperature Life test</td><td>The quartz crystal unit shall be stored at a temperature of 85+/-3℃ for 720h ,then it shall be subjected to standard atmospheric condition for 1h after which measurement shall be made.</td><td>△F≤+/-5ppm<br>△R≤+/-15%+3Ω</td></tr>
</table>

**9.All products are RoHs compliant**

## 10. Reflow Profile




High Temperature Infrared /Convection

Note:Temperature shown are applied to body of device

| | |
|---|---|
| Ts max to $T_L$(Ramp-up Rate) | 3℃/second max |
| Preheat<br>Temperature Min(Ts Min)<br>Temperature Typical( Ts Typ)<br>Temperature Max.(Ts Max)<br>Time(ts) | <br>150℃<br>175℃<br>200℃<br>60-180 seconds |
| Ram-up Rate($T_L$ to Tp) | 3℃/second Max |
| Time Maintained Above:<br>--Temperature($T_L$)<br>--Time($T_L$) | <br>217℃<br>60-150seconds |
| Peak Temperature (Tp) | 260℃ Max for 10 seconds |
| Time within 5℃ of actual peak($t_p$) | 20-40 seconds |
| Ramp-down Rate | 6℃/seconds Max |
| Tune 25℃ to Peak Temperature(t) | 8 minutes Max |
| Moisture Sensitivity Level | Level 1 |

High Temperature Manual Soldering

Note:Temperature shown are applied to body of device

260℃ Max for 10 seconds Max, 2 times Max