

# 承 认 书

## SPECIFICATIONS FOR APPROVAL

客户名称:

Customer: \_\_\_\_\_

产品名称:

石英晶体谐振器

Description:

CRYSTAL RESONATOR

产品型号:

3225 13.52127M 20PF 10PPM

SPECIES

标称频率:

13.52127MHz

FREQUENC

料 号:

MATERIAL CODE

SCGYS13X52127ELPM

| 供应商确认          |                         |                      |                                                | 客户确认           |                         |                         |                                     |
|----------------|-------------------------|----------------------|------------------------------------------------|----------------|-------------------------|-------------------------|-------------------------------------|
| 品管部<br>QC Dept | 工程部<br>Engineer<br>Dept | 业务部<br>Trade<br>Dept | <input checked="" type="checkbox"/><br>合格 PASS | 品管部<br>QC Dept | 工程部<br>Engineer<br>Dept | 采购部<br>Purchase<br>Dept | <input type="checkbox"/><br>合格 PASS |
| 莫<br>平<br>会    | 梁<br>雄                  | 陈<br>晓<br>群          | <input type="checkbox"/><br>不合格 NG             |                |                         |                         | <input type="checkbox"/><br>不合格 NG  |

公司地址: 四川省泸州市泸县工业园B区明星路204号(坤羽)五、六栋

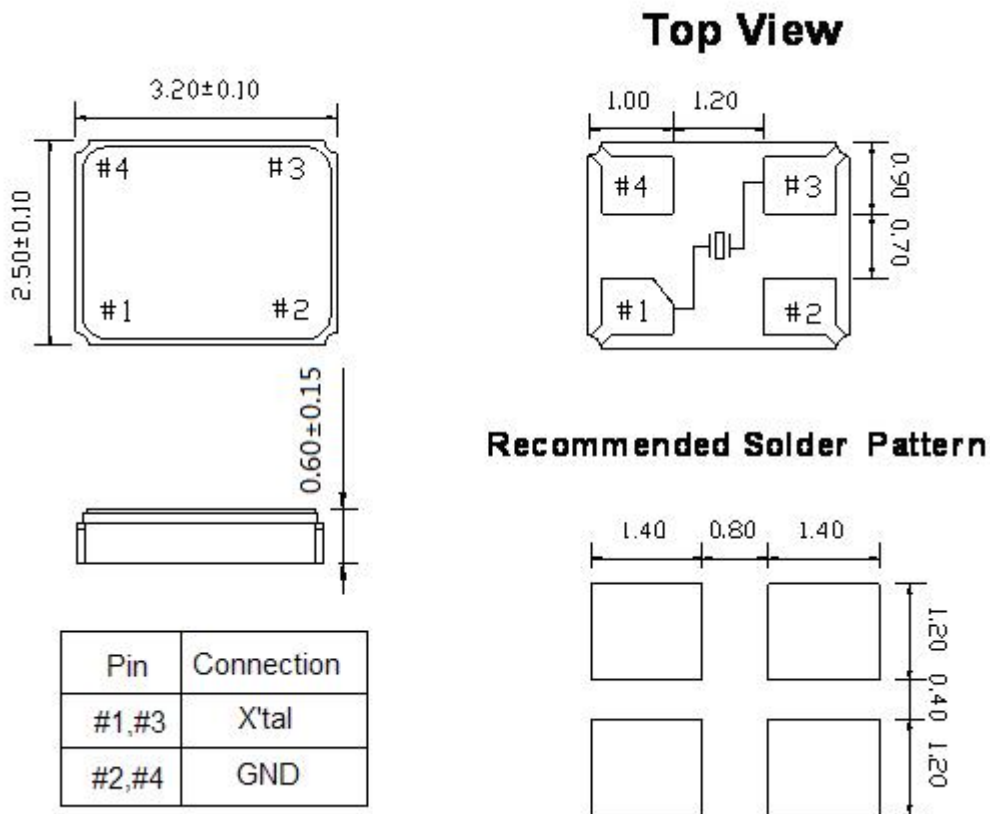
电话: 0830-8172777、0830-8106299

传真: 0830-8106266

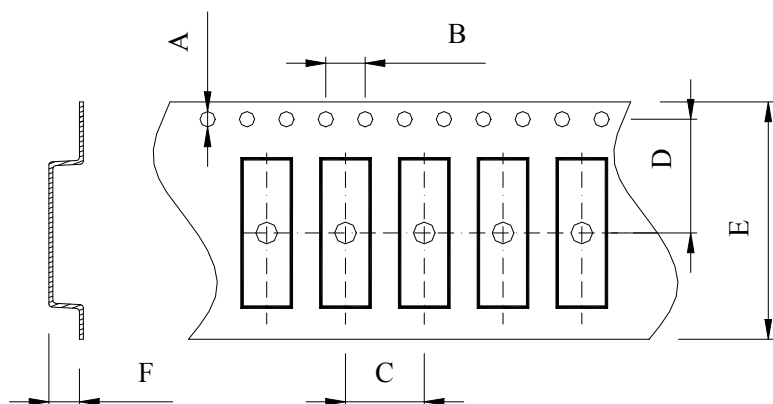
**GENERAL SPECIFICATIONS (电气特性):**

| No. | Parameters                  | Symb.            | Electrical Specification |      |      |       | Notes                                    |
|-----|-----------------------------|------------------|--------------------------|------|------|-------|------------------------------------------|
|     |                             |                  | Min.                     | Typ. | Max. | Units |                                          |
| 1   | Nominal Frequency           | F0               | 13.5212700               |      |      | MHz   |                                          |
| 2   | Overtone order              |                  | Fundamental              |      |      |       |                                          |
| 3   | Frequency Tolerance         | $\Delta F/F0$    | -10                      | -    | +10  | ppm   | at 25°C±3°C                              |
| 4   | Operating Temperature Range | T <sub>OPR</sub> | -20                      | -    | +70  | °C    |                                          |
| 5   | Frequency Stability         | TC               | -30                      | -    | +30  | ppm   | The reference temperature shall be +25°C |
| 6   | Storage Temperature         | T <sub>STG</sub> | -40                      | -    | +85  | °C    |                                          |
| 7   | Load capacitance            | CL               | -                        | 20   | -    | pF    |                                          |
| 8   | Equivalent resistance       | ESR              | -                        | -    | 60   | Ω     |                                          |
| 9   | Level of drive              | DL               | -                        | 100  | -    | μW    |                                          |
| 10  | Insulation Resistance       |                  | 500                      | -    | -    | MΩ    | DC100V ±15V.                             |
| 11  | Shunt Capacitance           | C0               | -                        | -    | 7    | pF    |                                          |
| 12  | Aging Per Year              | Fa               | -3                       | -    | +3   | ppm   | First Year                               |
| 13  | Package type                | 3225 seam        |                          |      |      |       |                                          |

## DIMENSIONS SPECIFICATIONS (外形尺寸)

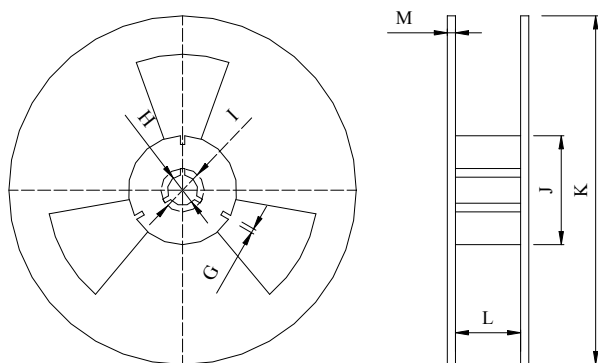


### Tape Dimensions(unit : mm)



| A    | B   | C   | D   | E   | F   |
|------|-----|-----|-----|-----|-----|
| 1.50 | 4.0 | 4.0 | 3.5 | 8.0 | 1.0 |

### 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**

| No. | Test Item                               | Test Conditions                                                                                                                                                                                                                                                                                                                                  | Spec Code |
|-----|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1   | High Temperature Storage                | Temperature: $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$<br>Time: $1000 \pm 12$ Hours                                                                                                                                                                                                                                                            | A         |
| 2   | Temperature Cycle                       | Temperature 1: $-55^{\circ}\text{C} \pm 5^{\circ}\text{C}$<br>Temperature 2: $125^{\circ}\text{C} \pm 5^{\circ}\text{C}$<br>Temperature change between T1 and T2 at soonest<br>Run 1000 cycles, maintain T1 and T2 30 minutes each in one cycle                                                                                                  | A         |
| 3   | High Temperature, High Humidity Storage | Temperature: $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$<br>Relative Humidity: 80%--85%<br>Time: 250Hours $\pm$ 24 Hours                                                                                                                                                                                                                          | A         |
| 4   | Steam Aging                             | Temperature: $97^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ; Time: 24 Hours<br>$260^{\circ}\text{C}$ solder pot to check solderability                                                                                                                                                                                                              | A         |
| 5   | Solderability                           | Pre-heat temperature: $+150 \pm 10^{\circ}\text{C}$<br>Pre-heat time: 60~120s<br>When the temperature of the specimen is reached at $+215 \pm 3^{\circ}\text{C}$ , it shall be left for $30 \pm 1$ sec.<br>Peak temperature $240 \pm 5^{\circ}\text{C}$<br>Material: Pb-free (Sn-3.0Ag-0.5Cu)<br>Flux: Rosin resin methyl alcohol solvent (1: 4) | B         |
| 6   | Aging                                   | Temperature: $85^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ; Time: $250 \pm 12$ Hours                                                                                                                                                                                                                                                               | A         |
| 7   | Drop Test                               | Preparation: Test pieces should be fixed on the dummy load with 200g weight.<br>Condition: Height 1.5m onto concrete<br>Drop times :10 times in 6 mutually perpendicular axes                                                                                                                                                                    | A         |
| 8   | Vibration                               | Frequency Range: 10Hz~2000Hz<br>Amplitude: 1.5mm or 20G<br>4Hours in each direction, total 12Hours                                                                                                                                                                                                                                               | A         |
| 9   | Reflow resistance                       | Pre-heat temperature : $+150 \sim 180^{\circ}\text{C}$<br>Pre-heat time: $90 \pm 30$ s<br>Heat temperature : more than $+230^{\circ}\text{C}$<br>Heat time: $30\text{s} \pm 10\text{s}$<br>Peak temperature : $+260 \pm 5^{\circ}\text{C}$<br>Peak time: less than 10s                                                                           | A         |

| Specification code | Specification                                                                                    |
|--------------------|--------------------------------------------------------------------------------------------------|
| A                  | $\Delta f/f \leq \pm 3$ ppm<br>$\Delta CI/CI \leq \pm 15\%$ or $5\ \Omega$ make use larger value |
| B                  | The electrodes should be covered by a new solder at least 90% of immersed area.                  |