



深圳市晶友嘉电子有限公司

SHENZHEN JINGYOUJIA ELECTRONIC CO., LTD



CRYSTAL RESONATOR SPECIFICATIONS

石英晶体谐振器承认书

| | |
|---------------------|---------------|
| 客户 Customer: | 立创商城 |
| 型号 Product: | 3TO4 |
| 客户料号 Code No: | C2986073 |
| 我司料号 Code No: | 3TO433333AWBD |
| 频率 Frequency: | 33.3333MHz |
| 数量 Sample Quantity: | |
| 日期 Date: | 2022-3-28 |

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供应商确认栏:

| | | |
|------------|------------|-------------|
| 制作 Handler | 确认 Checked | 核审 Approved |
| 戴晓嘉 | 陈斌 | 李晨 |

客户承认栏:

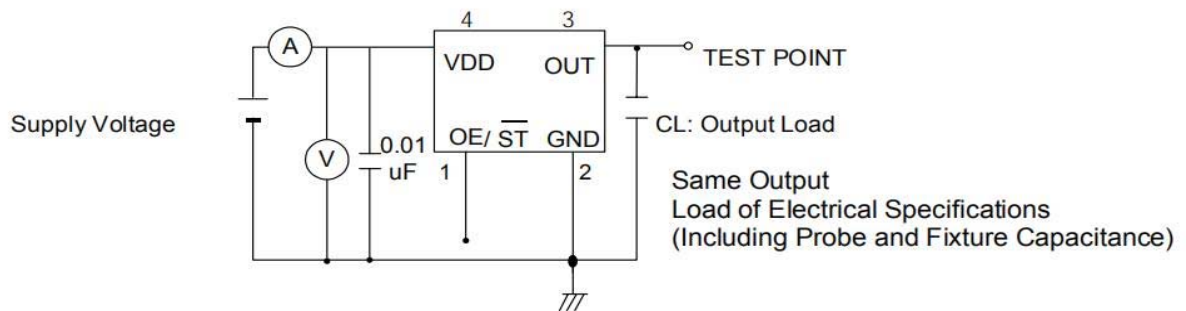
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| 承认 Checked | 核审 Approved |
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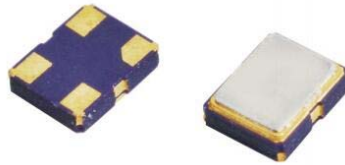
1. Electrical Parameters

| No. | Parameters | Symbol | Condition | Electrical Specification | | | |
|-----|-------------------------------|--------|------------------|--------------------------|------|------------|-------|
| | | | | Min. | Type | Max. | Units |
| 1 | Nominal Frequency | - | | 33.3333 | | | MHz |
| 2 | Operating Temperature | Topr | | -40 | - | 85 | °C |
| 3 | Storage Temperature | Tstg | | -55 | - | 105 | °C |
| 4 | Frequency Stability | - | Note 1 | ±20 | | | ppm |
| 5 | Supply Voltage | VDD | | | 1.8 | | V |
| 6 | Current Consumption | Icc | | | | 20 | mA |
| 7 | Output Type | - | | CMOS | | | |
| 8 | Output Load | CL | | 15 | | | pF |
| 9 | Output Voltage High | VoH | | 90%VDD | - | - | V |
| 10 | Output Voltage Low | VoL | | - | - | 10%VD | V |
| 11 | Rise Time | Tr | 10%→90%VDD Level | - | - | 8 | nS |
| 12 | Fall Time | Tf | 90%→10%VDD Level | - | - | 8 | nS |
| 13 | Symmetry or Duty Cycle | TH/T | | 40 | 50 | 60 | % |
| 14 | Start-up Time | Tosc | | - | - | 10 | mS |
| 15 | Enable Voltage High (Logic 1) | Vh | Note 2 | 70%VDD | - | - | V |
| 16 | Disable Voltage Low (Logic 0) | Vlo | Note 2 | - | - | 30%VD D | V |
| 17 | Aging | - | 1st.Year at 25°C | ±3 | | | ppm |
| 18 | Output Disable Time | T off | | - | - | 150 | μS |
| 19 | Output Enable Time | T on | | - | - | 150 | μS |

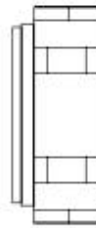
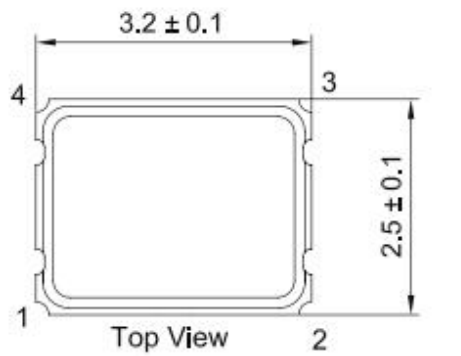
■ TESTING CIRCUIT



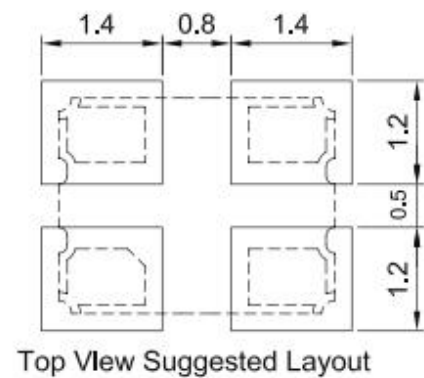
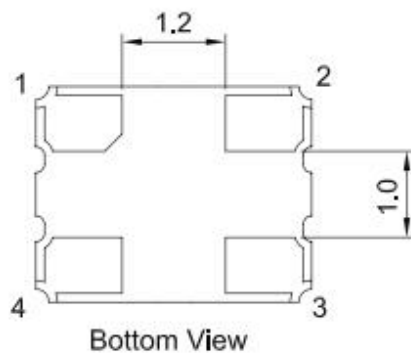
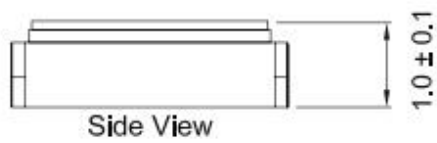
3.实物 Product



4.外型尺寸 Outline Dimensions (unit:mm)

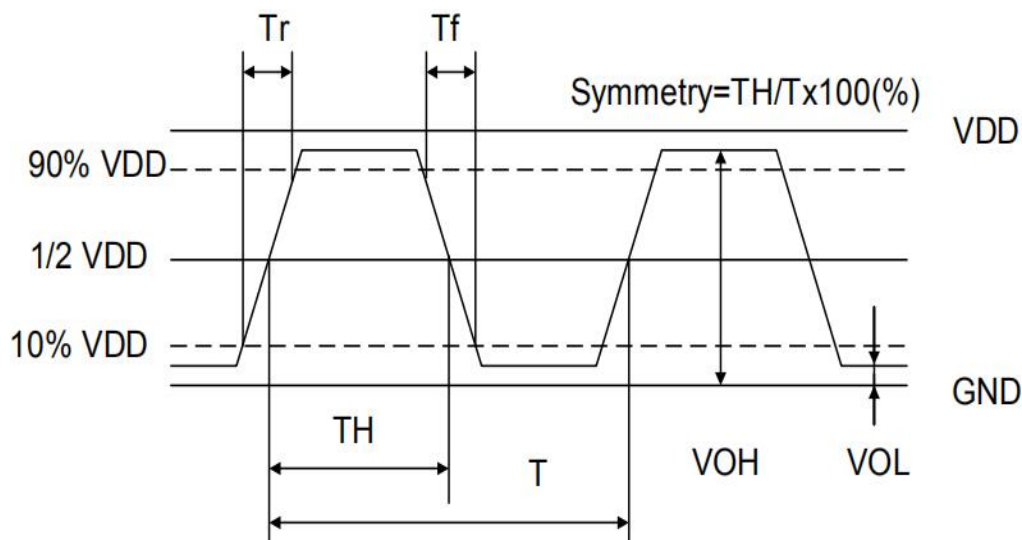


PAD FUNCTION:
1: ENABLE CONTROL
2: GND
3: OUT
4: VDD

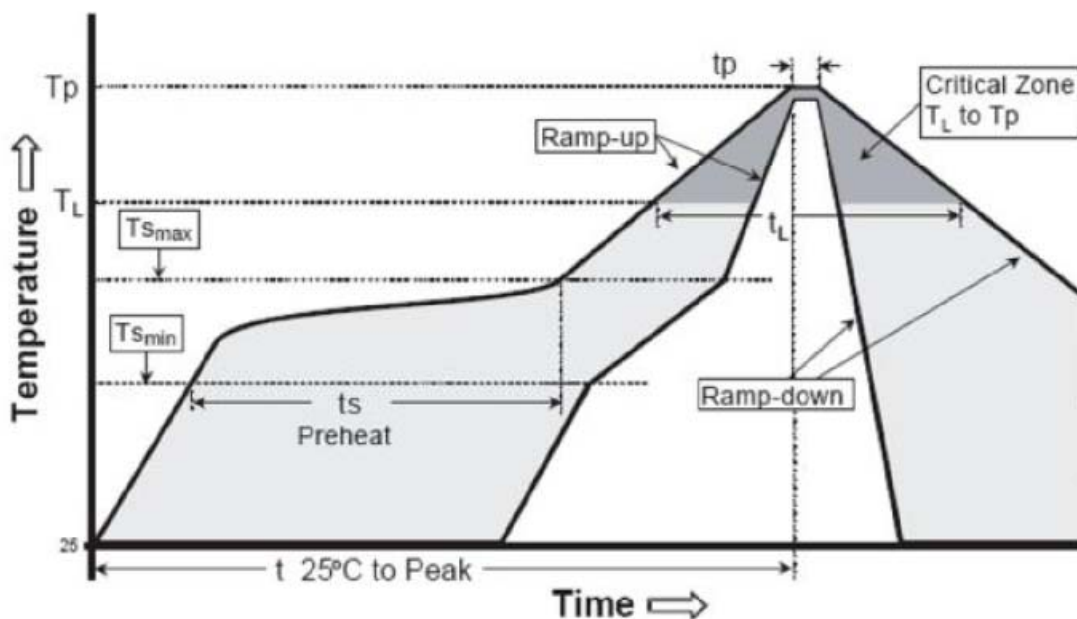


5. 波型条件 WAVEFORM CONDITIONS

Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.



6. 回流焊曲线 Reflow Profiles



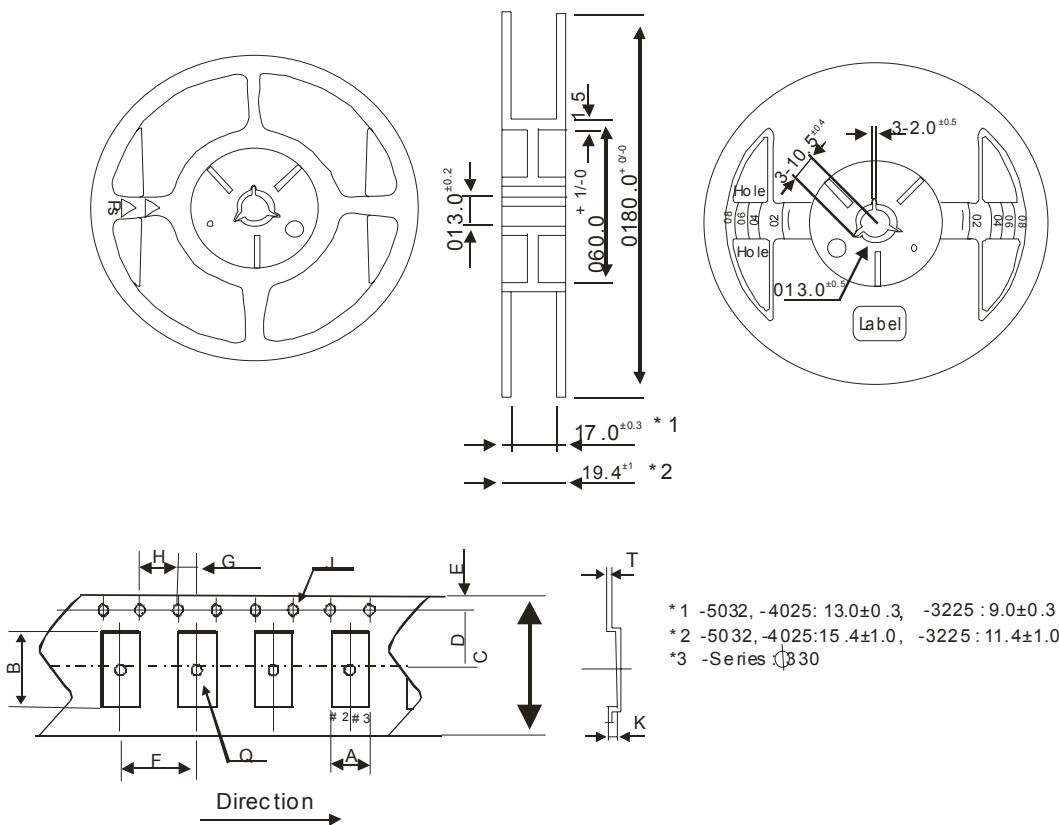


7.机械可靠/信赖性 Mechanical Performance

| | Item | Condition | Standard |
|-----|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1. | Drop characteristics | Free drop from 50cm height on a hard wooden board for 3 times. (Board is thickness more than 30 mm.) | Frequency change: $\leq 5\text{ppm}$ Rr as specification |
| 2.. | Shake characteristics | Shake frequency 10~55Hz, cyc1~2 minutes, swing 1.5mm, direction x/y/z, all 30 minutes, test after 1 hours. | Frequency change: $\leq 5\text{ppm}$ Rr as specification |
| 3. | Airproof characteristics | Put crystal into the pressure cabin with alcohol, keep pressure 0.4~0.5mpa 10 minutes, then take out and blow for 5 minutes | $IR \geq 500M\Omega$ |
| 4. | Weld characteristics | 260°C Max, 10 seconds | 90% exhibit tin ok |
| 5. | Humidity characteristics | +40±2°C & 90%~95% R.H. 250 hours | Frequency change: $\leq 5\text{ppm}$ Rr as specification |
| 6. | Low temperature characteristics | -30±2°C, 250 hours, put in room temperature, test after 1 hours. | Frequency change: $\leq 5\text{ppm}$ Rr as specification |
| 7. | High temperature characteristics | +85±2°C, 250 hours, put in room temperature, test after 1 hours. | Frequency change: $\leq 5\text{ppm}$ Rr as specification |
| 8. | Temperature cycling | -30±3°C/30±3 min~+85±2°C/30±3min, 5 cycles | Frequency change: $\leq 5\text{ppm}$ Rr as specification |

8.Dimension of Inside Package

内包装尺寸图



*1 -5032, -4025: 13.0±0.3, -3225 : 9.0±0.3
*2 -5032, -4025:15.4±1.0, -3225 : 11.4±1.0
*3 -Series 330

- Standard quantity of 3225 : 3.000 pcs/reel
- Standard quantity of others : 1.000 pcs/reel
- Carrier tape : Antistatic material (PS)
- Each reel can be recycled

| | 7050 | 6035 | 5032 | 3225 |
|---|-----------------------|-----------------------|-----------------------|------------------------|
| A | 5.4 ^{±0.1} | 3.9 ^{±0.1} | 3.5 ^{±0.1} | 2.9 ^{±0.1} |
| B | 7.4 ^{±0.1} | 6.4 ^{±0.1} | 5.4 ^{±0.1} | 3.6 ^{±0.1} |
| C | 16.0 ^{±0.2} | 16.0 ^{±0.2} | 12.0 ^{±0.2} | 10.0 ^{±0.2} |
| D | 7.5 ^{±0.1} | 7.5 ^{±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} |
| F | 8.0 ^{±0.1} | 8.0 ^{±0.1} | 8.0 ^{±0.1} | 4.0 ^{±0.1} |
| G | 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} |
| J | 1.55 ^{±0.05} | 1.55 ^{±0.05} | 1.5 ^{±0.1/0} | 1.5 ^{±0.1/0} |
| K | 1.4 ^{±0.1} | 1.5 ^{±0.1} | 1.0 ^{±0.1} | 0.9 ^{±0.1} |
| Q | 1.6 ^{±0.1/0} | 1.55 ^{±0.05} | 1.6 ^{±0.1} | 1.5 ^{±0.1/0} |
| T | 0.3 ^{±0.05} | 0.3 ^{±0.05} | 0.25 ^{±0.05} | 0.25 ^{±0.05s} |

9. Inner carton

