

STANDARD SPECIFICATION

产品规格书

客户 Customer : _____

客户料号 Customer P/N NO. : _____

产品描述 Product Description : 5032-OSC 50.000MHZ 3.3V ±10PPM

H X - C 料号 P/N. NO. : 5Y050000VP

客户批准 Customer Approval :

| | |
|---------|----------|
| 审 核 | 批 准 |
| Checked | APPROVED |
| | |

(请批准后回签一份 PLEASE RETURN A COPY WITH APPROVAL)

| | | |
|-----------------|--------------|-----------------|
| 拟 制 DESIGNER | 审 核 CHECK | 批 准 APPROVED |
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Spec Sheet Contents

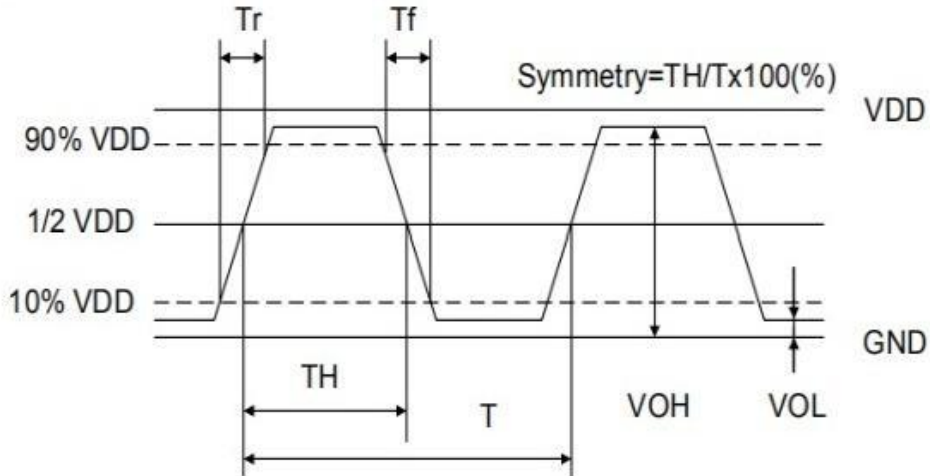
| NO. | Content | Page |
|-----|--|------|
| 1 | 石英晶体参数规格 QUARTZ CRYSTAL UNIT SPECIFICATION | 4 |
| 2 | CMOS负载输出波形 LOAD OUTPUT WAVEFORM | 5 |
| 3 | CMOS负载电路测试 LOAD CIRCUIT TEST | 5 |
| 4 | 外形尺寸 BOUNDARY DIMENSION | 6 |
| 5 | 印字内容 MARKING | 6 |
| 6 | 内部结构 INSIDE STRUCTURE | 7 |
| 7 | 包装 PACKING | 7 |
| 8 | 回流焊温度曲线 REFLOW PROFILES | 8 |
| 9 | 可靠性试验 RELIABILITY SPECIFICATIOND | 9 |
| 10 | 包装数量 NUMBER OF PACKAGES | 11 |
| | | |
| | | |
| | | |
| | | |
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1. 石英晶体参数规格 QUARTZ CRYSTAL UNIT SPECIFICATION

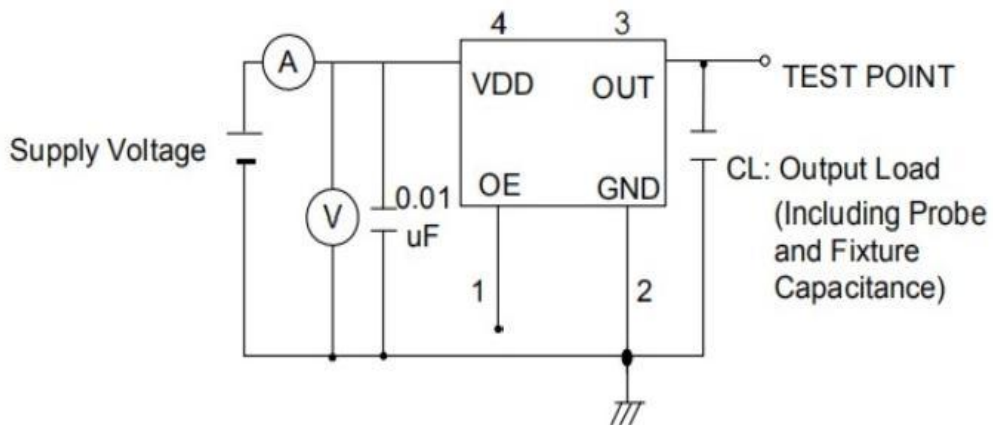
电气特性 Electrical Characteristics

| | 项目 Item | 符号 Symbol | 电气特性规格 Electrical Specification | | | | 备注 Notes |
|----|--------------------------------------|--------------|------------------------------------|------------|------------|-------------|-----------------|
| | | | 下限 Min. | 中心 Typ. | 上限 Max. | 单位 Units | |
| 1 | 标准频率 Nominal Frequency | FL | 50.000 | | | MHz | |
| 2 | 震荡模式 Oscillation Mode | - | Fundamental | | | - | |
| 3 | 频率偏差 Frequency Tolerance | FT | -10 | - | 10 | ppm | At 25°C±°C |
| 4 | 温度频差 Equivalent Series Resistance | TC | -30 | - | 30 | ppm | |
| 5 | 工作温度 Operating Temperature | | -40 | - | 85 | °C | |
| 6 | 储存温度范围 Storage temperature range | T_stg | -55 | - | 125 | °C | |
| 7 | 老化率 Aging rate | F_age | | ±2 | | ppm | First year |
| 8 | 供电电压 For the pressure | Vdd | 1.8 ~ 3.3 | | | V | ±10% |
| 9 | 电流 current | Icc | | | 7.0 | mA | |
| 10 | 上升, 下降时间 Rise, fall time | | 5 | | | Ns | 10%~90% Level |
| 11 | 输出波形 Output waveform | | CMOS | | | | |
| 12 | 占空比 Duty ratio | TH/T | 45 | | 55 | % | |
| 13 | 输出负载 The output load | CL | | 15 | | pF | |
| 14 | 三态 Output Enable | | 70%Vdd | | | V | Pin 1 Tri-state |
| 15 | 三态 Output Disable | | | | 30%Vdd | V | |

2. CMOS 负载输出波形 LOAD OUTPUT WAVEFORM

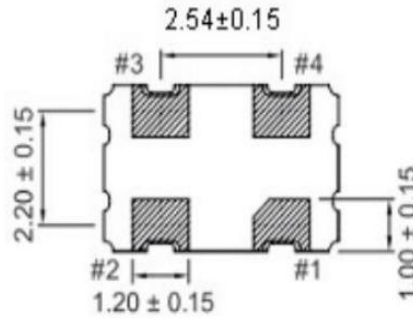
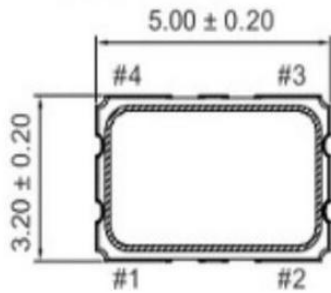


3. CMOS 负载电路测试 LOAD CIRCUIT TEST

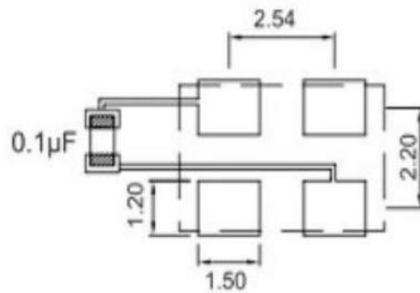
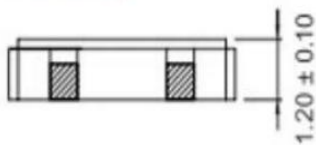


4. 外形尺寸 BOUNDARY DIMENSION

(单位: mm)



[SIDE VIEW]



| Pin | Function |
|-----|-----------------|
| #1 | TRI-STATE |
| #2 | GND |
| #3 | Output |
| #4 | V _{DD} |

Notes: PIN 1 connected to V_{dd} or floating, the product is working properly; connected to GND, stops working.

5. 印字



HX-C ----- LOGO

• ----- Pin1

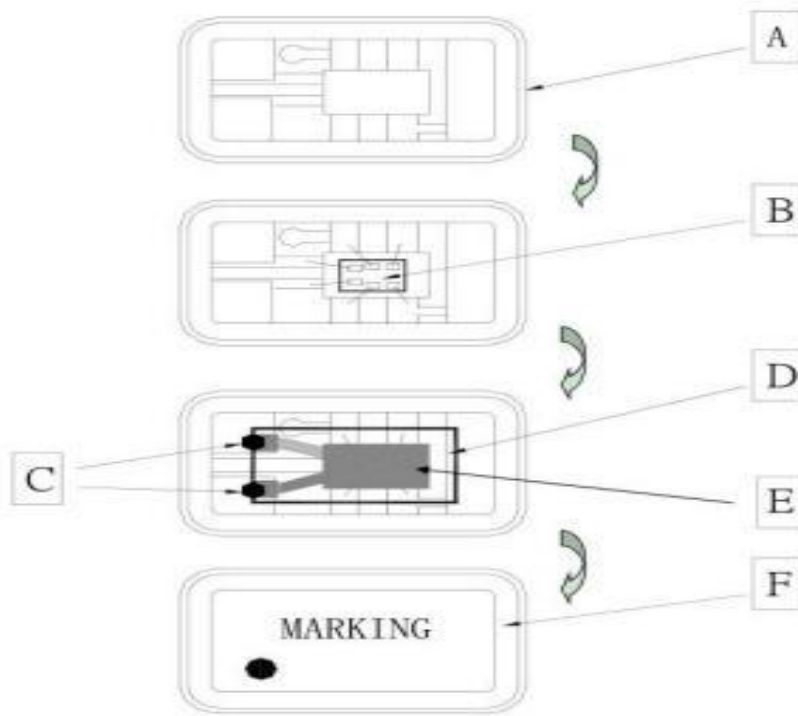
50.0 ----- 频率

V ----- 电压

3 ----- 年份

Z ----- 月份

6. 内部结构图 INSIDE STRUCTURE

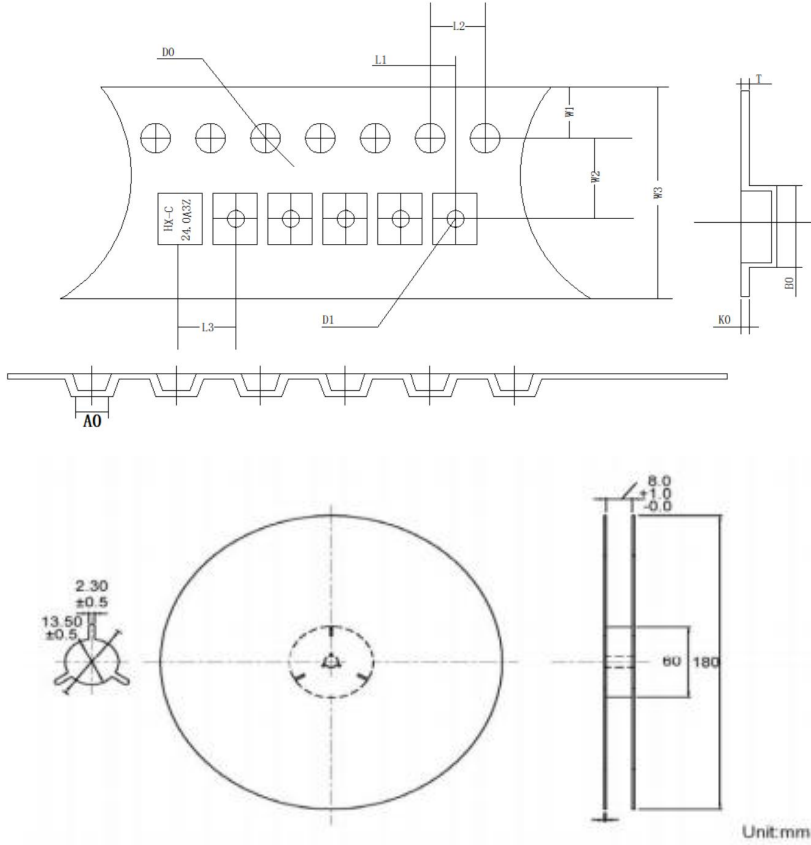


| 组件及名称 | | 材质 | 组件及名称 | | 材质 |
|-------|-----|--------------------------------|-------|----|------------------|
| A | 基座 | Al ₂ O ₃ | D | 晶片 | SiO ₂ |
| B | 芯片 | 硅 | E | 电极 | Cr+Ag |
| C | 导电胶 | Ag + 硅树脂 | F | 上盖 | Kovar |

7. 编带包装 BRAID PACKAGING

(单位: mm)

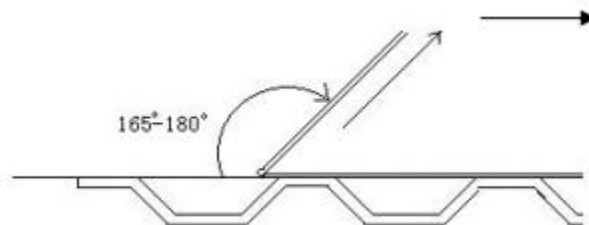
1. 载带与编带盘尺寸



| | |
|----|-----------|
| L1 | 2.00±0.1 |
| L2 | 4.00±0.1 |
| L3 | 4.00±0.1 |
| D0 | 1.50±0.1 |
| D1 | 1.00±0.1 |
| W0 | 8.30±0.2 |
| W1 | 1.75±0.1 |
| W2 | 3.50±0.1 |
| W3 | 8.00±0.1 |
| A0 | 2.72±0.1 |
| B0 | 3.46±0.1 |
| K0 | 1.00±0.1 |
| T | 0.22±0.05 |

2. 剥离方式见下图, 强度: 20g-100g

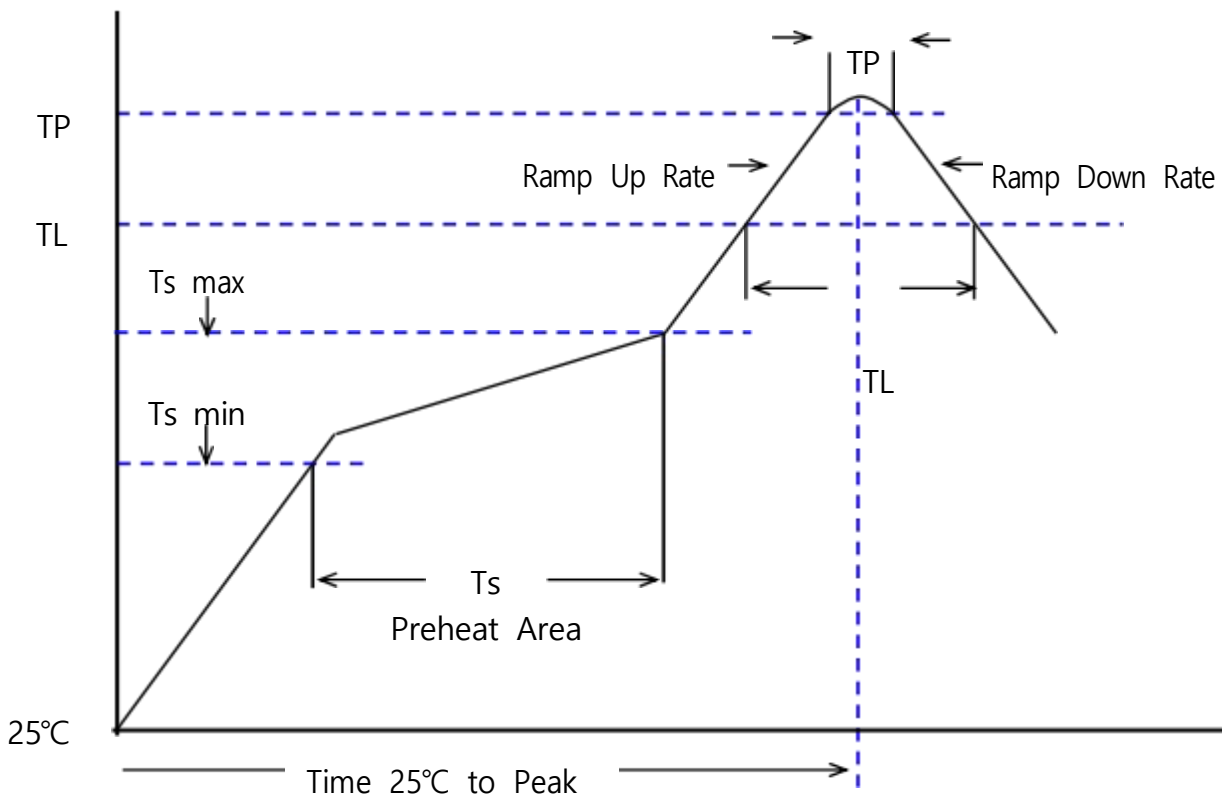
牵引方向



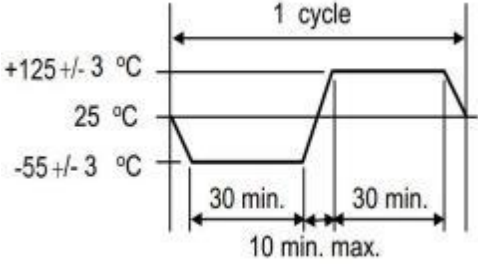
8. 回流焊温度曲线 REFLOW PROFILES

参考标准 REFER: JEDEC J-STD-020D

| Profiles Feature | Pb-Free Assembly |
|---|----------------------------------|
| Preheat/Soak Temperature Min (Ts min) Temperature Max (Ts max) Time (Ts) from (Ts min to Ts max) | 150°C 200°C 60-120 seconds |
| Ramp-up rate (TL to TP) | 3°C/second max. |
| Liquidous temperature (TL) Time (TL) maintained above TL | 217°C 60-150 seconds |
| Peak/Classification Temperature (TP) | 260±5°C |
| Time within 5°C of actual Peak Temperature (TP) | 20~40 seconds |
| Ramp-down rate (TP to TL) | 6°C/second max. |
| Time 25 °C to peak temperature | 8 minutes max. |
| Suggest reflow times | 3 Times max |



9. 可靠性试验 RELIABILITY SPECIFICATION

| 参考标准REFER | | JIS C 6701 | |
|-----------|--|--|---|
| NO. | 项目 ITEM | 测试条件 CONDITIONS | 判定标准 Criteria |
| 1 | 跌落 FREE FALL | 从150cm位置高度,自由跌落在木板上,连续3次. FREE DROPPING FROM 150 cm HEIGHT 3 TIMES ON A HARD | 电器性能 满足规格要求 THE ELECTRICAL PERFORMAN CE MEET THESPECIFIC ATONN |
| 2 | 振动 VIBRATION | 振动频率： 10~2000 Hz， 振幅： 1.52mm， 时间： 每个方位三面 (X、Y、Z) 各振动2小时 FREQUENCY： 10.2000Hz;AMPLITUDE (TOTAL EXCURSION)： 1.5mm SWEEP TIME： 2-3MIN, 3 DIRECTION(X, Y, Z) EACH FOR 2 Hrs. | |
| 3 | 温度循环 TEMPERATURE CYCLE | 晶体放入试验箱中， 高、低温循环10次 THE CRYSTAL UNIT SHALL BE SUBJECTED TO 10 SUCCESSIVE CHANGE OF TEMPERATURE CYCLE  | |
| 4 | 冲击 IMOACT | 半正弦波冲击 (1000G)： 持续时间： 0.5ms， X,Y,Z三轴各三次时间： 2 小时 HELIUM BOMBING: 3 TIME | |
| 5 | 可焊性 SOLDERABILI TY | 温度： 245±5°C， 浸锡时间： 3±0.5 秒 THE LEAD IS IMMERSIED IN A 245±5°C SOLDER BATH WITHIN 3±0.5 SECONDS. | |
| 6 | 稳态湿热 HIGH TEMP. & HUMIDITY | 温度： 85 ±3°C， 湿度： 85 %， 保持时间： 500个小时 STORED AT 85 ±3°C AND HUMIDITY 85 % FOR 500±12H. | |
| 7 | 高温存储 HIGH TEMPERATURE STORAGE | 高温温度： 125±2°C， 时间： 500±12 个小时 STORED AT 125±2°C FOR 500±12H. 如果客户的温度要求是高于标准,则必须根据客户的要求测试 If Customer's temperature request is higher than the standard, Temperature test must be done for customer requirements | |
| 8 | 低温存储 LOW TEMPERATURE STORAGE | 低温温度： -40±2°C， 时间： 500±12 个小时 STORED AT -40±2°C FOR 500±12H. 如果客户的温度要求是低于标准,则必须根据客户的要求测试 If Customer's temperature request is lower than the standard, Temperature test must be done for customer requirements | |

10. 包装数量 NUMBER OF PACKAGES

| 类型 TYPE | 尺寸 SIZE | 数量 NUMBER |
|----------------------|-------------|--------------|
| 包装盒 Packaging | 180*20*180 | 1000pcs |
| 包装箱 Packing cases | 240*200*200 | 10000pcs |

★ 备注:

1. 以上可靠性项目为我司常规测试项目, 若客户对产品有跌落, 冲击, 碰撞以及涉及到超声 波焊接工艺的需求, 请将贵司的需求反馈给我司, 我司会对该产品的可靠性项目进行更新。 2. 客户端在对晶体加热后, 为了保证频率的准确性, 建议将晶体充分冷却后再进行相关测试。 3. 该产品符合公司环保标准要求。

1. The above reliability items are routine test items of our company. If the customer has requirements on the products including drop, impact, collision and ultrasonic wave welding process, please feedback your requirements to our company, and we will update the reliability items of this product. 2. In order to ensure the accuracy of frequency, it is recommended to fully cool the crystal after heating it on the client. 3. The product meets the company's environmental standards.

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