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| 编号 | SCTF202403356 |
| 日期 | 2024/3/26 |
| 版本 | B01 |



承认书

SPECIFICATION FOR APPROVAL

| | |
|-----------------------|-------------------------------------|
| 客户名称 Customer Name: | 立创商城 |
| 供应商物料名称 Part Name: | 差分输出石英晶体振荡器 |
| 产品描述 Description: | OSC SMD7050 156.250MHz/3.3V/LVDS |
| 供应商物料料号 Part NO.: | SX7DF156.250B20F30DNN |
| 供应商名称 Supplier Name : | 深圳市星通时频电子有限公司 |

PLEASE CONFIRM OUR SPECIFICATION. 敬请确认规格书之内容。

| CUSTOMER APPROVAL 客户审批 | | |
|----------------------------|-----|-----|
| 物料代号 PART NO. _____ | | |
| 使用于机型 USED IN MODEL: _____ | | |
| 工程部 | 品质部 | 采购部 |
| | | |

(敬请承认后返回一份, 谢谢!)

| SUPPLIER APPROVAL 供应商审批 | | |
|-------------------------|---------|-------------|
| DGN.制表人 | CKD. 校对 | APPD. 审核、签章 |
| 吴丽红 | 李良 | 胡华才 |

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| Revision Record | | | | |
|------------------------|--------------------|-------------------------|-------------------|----------------|
| Rev. | Revise page 修订页 | Revise contents 修订内容 | Rev. Date 修订日期 | Reviser 修订人 |
| B01 | N/A | Initial released. | 2021/2/24 | Martin.Hu |
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■ Electrical Specification 电气参数

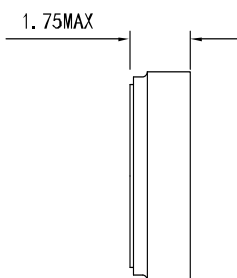
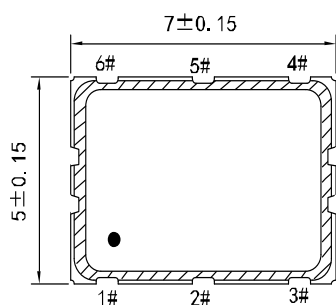
| N0. | Item | Electrical Spec. | Notes |
|-----|--|-------------------------|---|
| 1 | Holder Type 封装 | SMD7050 | |
| 2 | Nominal Frequency 标称频率 | 156.250000 MHz | |
| 3 | Frequency stability 常温频差 | ±20ppm | at 25°C±2°C |
| 4 | Temperature Drift 温度频差 | ±30ppm | at -40~85°C |
| 5 | Operating voltage 工作电压 | 3.3V | ±5% max. |
| 6 | Output 输出模式 | LVDS | |
| 7 | Output load 输出负载 | 100Ω | Between OUT & OUTN,EN=Open |
| 8 | Current consumption 消耗电流 | 15 mA Typ. | 30 mA max. V _{DD} =3.3V, EN=Open |
| 9 | Operating temperature Range 工作温度范围 | -40~85°C | |
| 10 | Storage Temperature Range 存储温度范围 | -55~125°C | |
| 11 | Duty Cycle 占空比 | 45%-55% | |
| 12 | Rise / Fall Time 上升/下降沿时间 | 1 nS max. | 20~80%V _{opp} |
| 13 | High output voltage 高电平 | 1.6V max. | DC Characteristics |
| 14 | Low output voltage 低电平 | 0.9V min. | DC Characteristics |
| 15 | Start-up Time 起振时间 | 10mS max. | To 90% of Final Amplitude |
| 16 | Phase noise 相位噪声 | -130dBc/Hz Typ. | at 1KHz offset.-125dBc/Hz Max. |
| 17 | RMS Phase Jitter 均方根抖动 | 0.1pSec Typ. | 12KHz - 20MHz.0.3pSec Max. |
| 18 | Enable Voltage High (Logic 1) 使能高电平 | 70%V _{dd} min. | Output will be enable if EN is Logic 1 or open ; Output will be disable if EN is Logic 0. 输出使能EN是高电平1或者悬空, 频率输出; 输出使能EN是低电平0, 则无频率输出。 |
| 19 | Enable Voltage Low (Logic 0) 使能低电平 | 30%V _{dd} max. | |
| 20 | Aging 老化 | ±3ppm | 1st. Year at 25°C |

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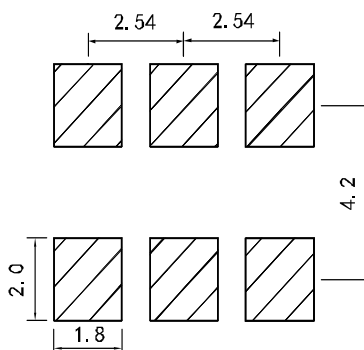
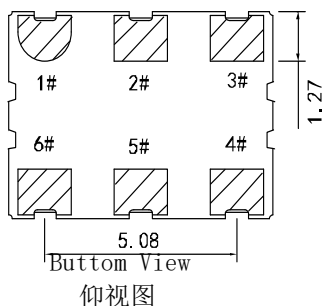
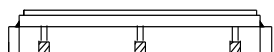
■ DIMENSIONS 产品尺寸

Units (单位): mm(毫米)



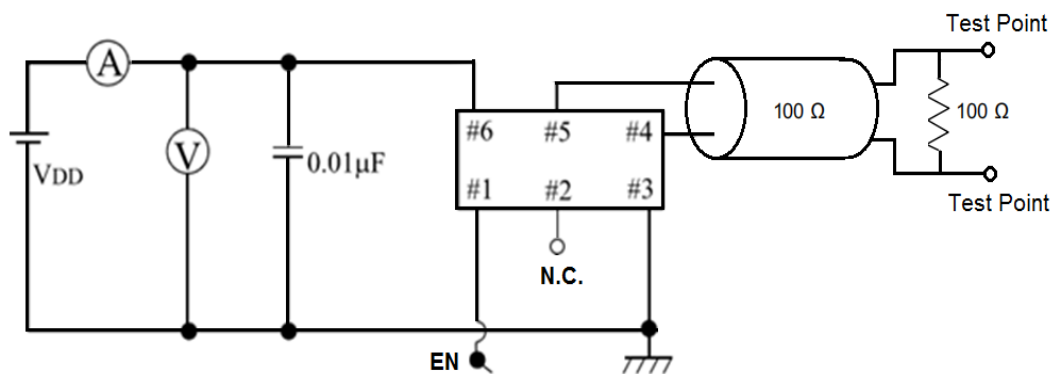
Pad Functions:

1. EN
2. NC
3. GND
4. OUT
5. OUTN
6. VDD



suggested solder pad layout

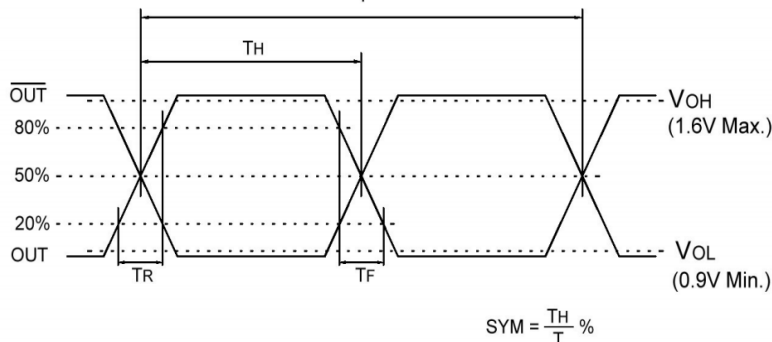
■ TESTING CIRCUIT 测试电路



※ Notes: PIN 1 connected to Vdd or floating, the product is working properly; connected to GND, stops working.

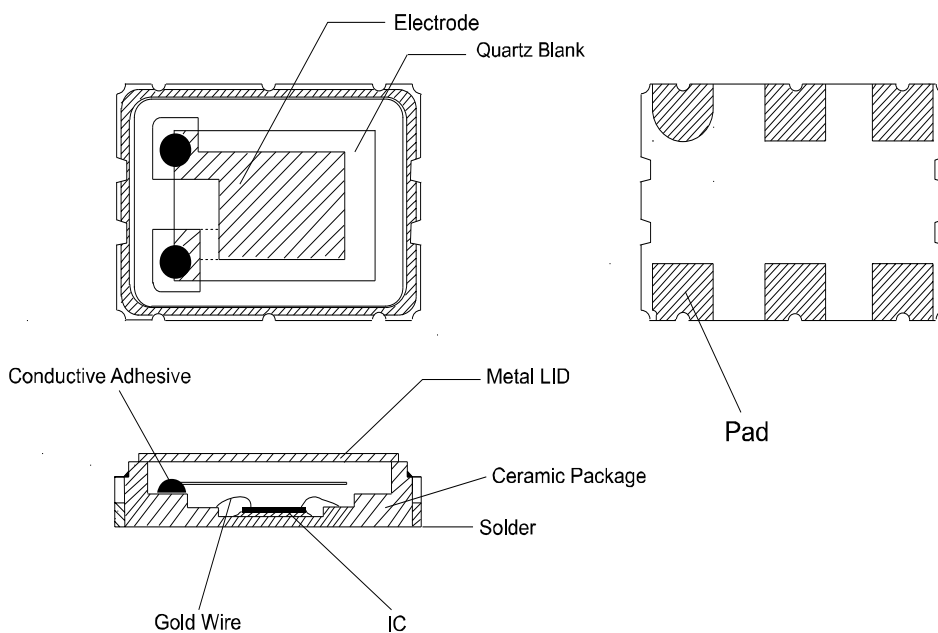
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■ WAVEFORM CONDITIONS 输出波形

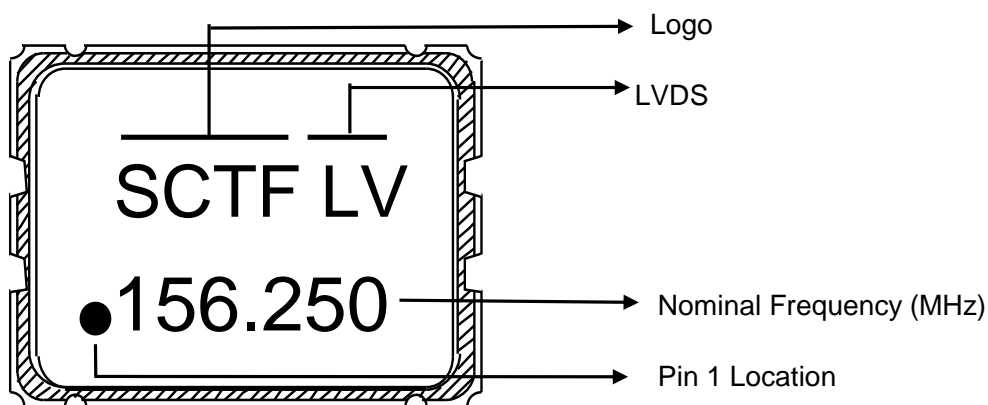


Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.

■ Product Structure 产品结构



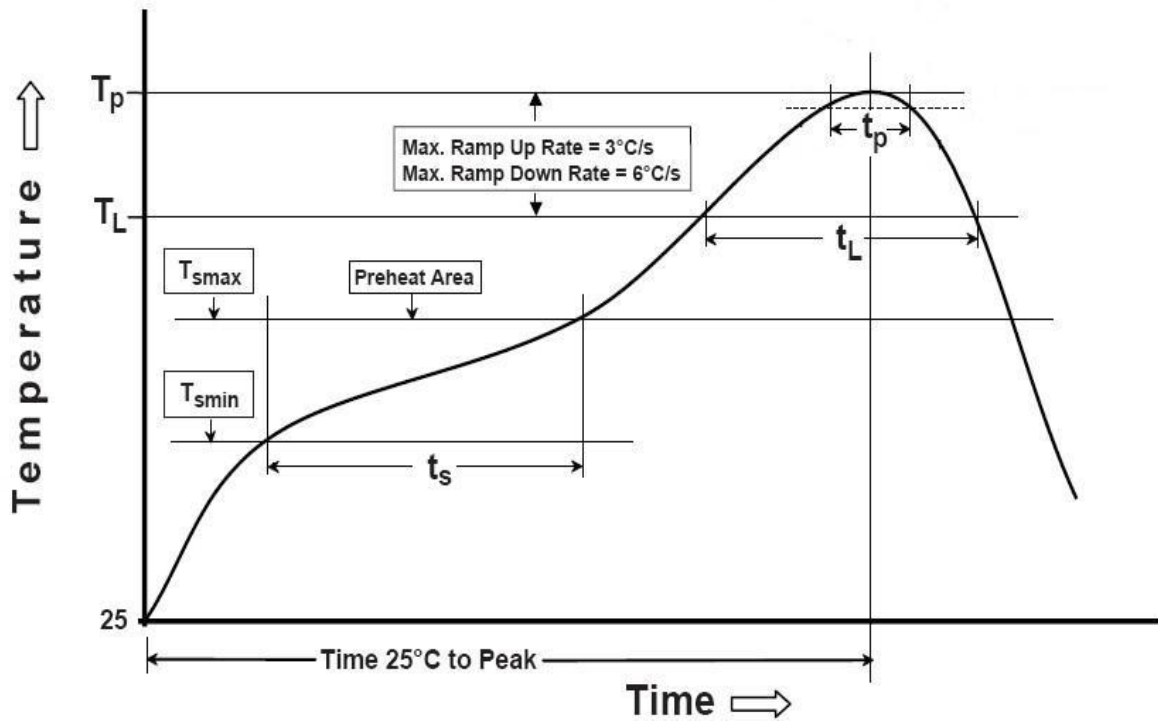
■ Marking 印字



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REFLOW PROFILES 回流焊条件

| Profile Feature | Sn-Pb Eutectic Assembly | Pb-Free Assembly |
|--|-------------------------|------------------|
| Preheat/Soak | | |
| ● Temperature Min(T_s min) | 100 °C | 150 °C |
| ● Temperature Max (T_s max) | 150 °C | 200 °C |
| ● Time (T_s min to T_s max) | 60-120 seconds | 60-120 seconds |
| Ramp-up rate (T_L to T_p) | 3 °C/second max. | 3 °C/second max. |
| Time maintained above | | |
| ● Liquidous temperature (T_L) | 183 °C | 217 °C |
| ● Time (t_L) maintained above T_L | 60-150 seconds | 60-150 seconds |
| Peak package body temperature (T_p) | 235 °C | 260 °C |
| Time within 5 °C of the specified classification temperature (T_p) | 20 seconds | 30 seconds |
| Ramp-down rate (T_p to T_L) | 6 °C/second max. | 6 °C/second max. |
| Time 25 °C to peak temperature | 6 minutes max. | 8 minutes max. |
| Suggest reflow times | 2 Times max. | |



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■ RELIABILITY SPECIFICATION 可靠性参数

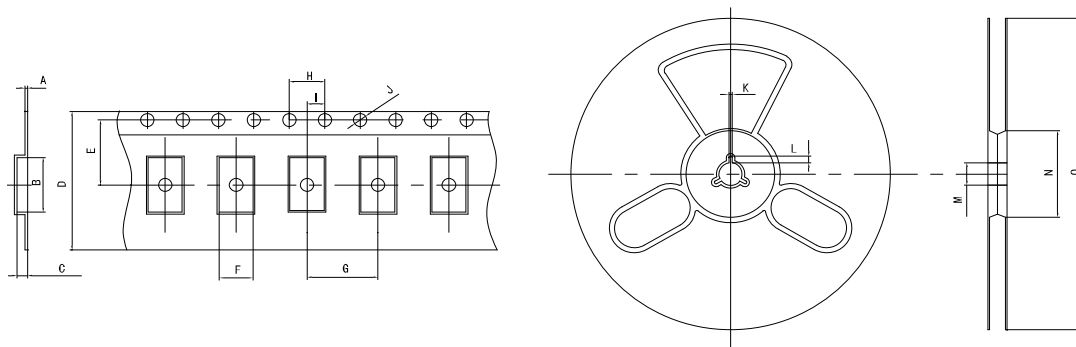
| 序号 NO. | 项目 ITEM | 条件 CONDITIONS | 合格标准 BASIS OF VERDICT |
|-----------|----------------------------------|---|--|
| 1 | 跌落 DROP | 55cm高处自由跌落到3cm厚木板上,3次 High:55cm;Thickness:3cm;3 times. | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 2 | 振动 Vibration | 频率 Frequency:10~57.7Hz:幅度 Amplitude: $\pm 0.75 \text{mm}$ 频率Frequency:57.7Hz~500Hz:加速度幅度acceleration rate:98m/s ² 周期 Cycle time:10-500-10Hz: 15min 振动方向 Direction:X,Y, Z 振动时间 Duration: 每个方向2小时 2 h/direction. | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 3 | 低温存储 Low Temperature Storage | 温度: $-40^\circ\text{C} \pm 2^\circ\text{C}$;时间:96小时 Temp: $-40^\circ\text{C} \pm 2^\circ\text{C}$;Times:96h | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 4 | 高温存储 High Temperature Storage | 温度: $125^\circ\text{C} \pm 2^\circ\text{C}$;时间:96小时 Temp: $125^\circ\text{C} \pm 2^\circ\text{C}$;Times:96h | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 5 | 高温高湿 High Temp&Homidit | 温度: $85^\circ\text{C} \pm 2^\circ\text{C}$;湿度85% $\pm 5\%$;时间:1000小时 Temp: $80^\circ\text{C} \pm 2^\circ\text{C}$;Humidity:85% $\pm 5\%$;Times:1000h | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 6 | 冷热冲击 Thermal Shock | $-40^\circ\text{C} \pm 2^\circ\text{C}$ (30min) \leftrightarrow $85^\circ\text{C} \pm 2^\circ\text{C}$ (30min);循环100次 $-40^\circ\text{C} \pm 2^\circ\text{C}$ (30min) \leftrightarrow $85^\circ\text{C} \pm 2^\circ\text{C}$ (30min);For 100 cycles | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 7 | 回流焊 Reflow | $150^\circ\text{C} \pm 5^\circ\text{C}$ 保持120s后升到 $265^\circ\text{C} \pm 5^\circ\text{C}$ 保持10s, 升温和保温时间 小于200s, 常温放置1~2h后测定 Keep $150^\circ\text{C} \pm 5^\circ\text{C}$ 120s and then rose to $265^\circ\text{C} \pm 5^\circ\text{C}$ for 10s, warming and holding time is less than the 200s, placed at room temperature 1 ~ 2h after test | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 8 | 盐雾 Salt Spray | 盐雾浓度:5%;温度: 35°C ;时间:24小时 Salt density:5%;Temp: 35°C ;Times:24h | 目测无明显腐蚀现象 Visual no significant corrosion. |
| 9 | 老化 Aging | 温度: 85°C ;时间:30天 Temp: 85°C ;Times:30days | $\Delta FL \leq \pm 5 \text{ppm}$ |
| 10 | 气密性 Leakage Test | 使用氦谱检测设备。 Measured by the helium leak detector. | 漏气小于 $1.0 \times 10^{-9} \text{Pa}$ $< 1.0 \times 10^{-9} \text{Pa m}^3/\text{s}$. |
| 11 | 可焊性 Soldering Test | 在 $245^\circ\text{C} \pm 5^\circ\text{C}$ 的锡槽中浸渍 3 ± 0.5 秒。 Dipping in solder bath at $245 \text{deg.C} \pm 5 \text{deg.C}$ for $3 \pm 0.5 \text{ sec}$. | 浸锡率大于95% Soldering tin rate greater than 90% |

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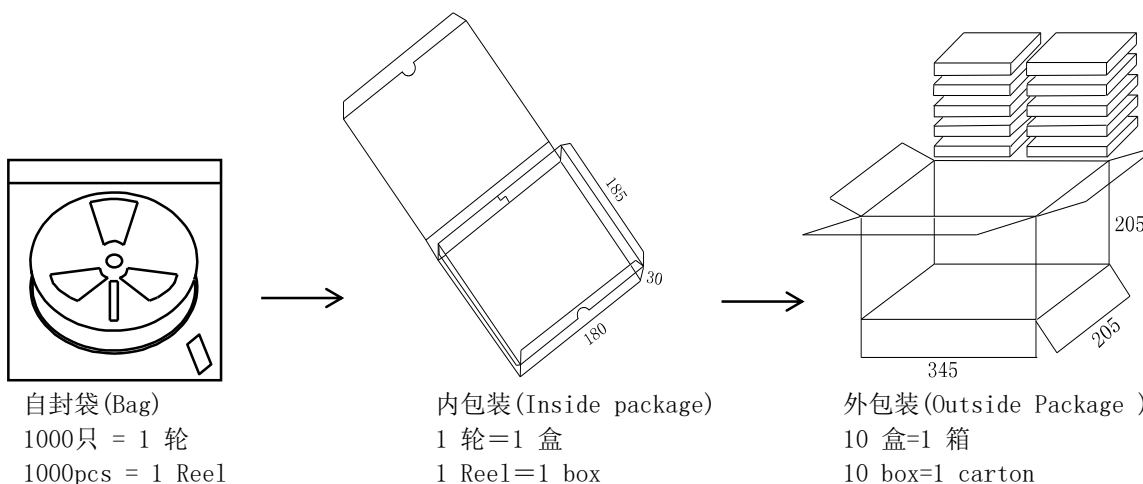
■ Taping Specifications 编带规格

UNIT (单位): mm (毫米)



| TEYE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O |
|---------|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-------|
| 5×7 SMD | 0.3 | 7.5 | 2.0 | 16.0 | 7.5 | 5.5 | 8.0 | 4.0 | 2.0 | 1.5 | 2.0 | 4.0 | 13.0 | 60.0 | 180.0 |

■ Packaging specifications 包装规格



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