

编号	SCTF202307339
日期	2023/7/29
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:	石英晶体振荡器
产品描述 Description:	OSC SMD5032 32.768KHz/3.3V
供应商物料料号 Part NO.:	SX5M32.768KB10F20TNN
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	李霞	胡华才



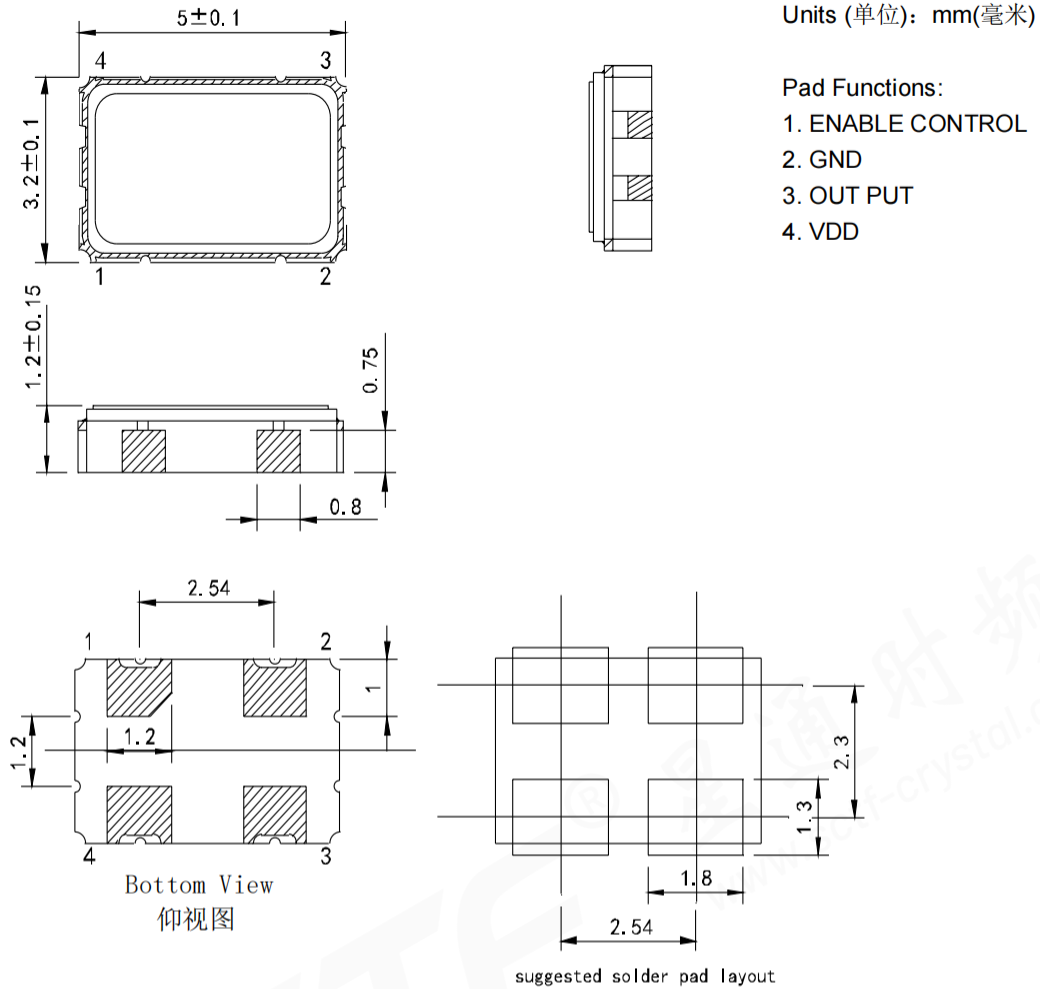
■ Electrical Specification 电气参数

N0.	Item	Electrical Spec.	Notes
1	Holder Type 封装	SMD5032	
2	Nominal Frequency 标称频率	32.768K Hz	
3	Frequency stability 常温频差	±10ppm	at 25°C±2°C
4	Temperature Drift 温度频差	±20ppm	at -40~85°C
5	Operating voltage 工作电压	3.3V	±10% max.
6	Output 输出模式	CMOS	
7	Output load condition 负载	15pF	
8	Current consumption 消耗电流	90 uA max.	
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	25 nS max.	
13	High output voltage 高电平	0.9Vdd min.	
14	Low output voltage 低电平	0.1Vdd max.	
15	Start-up Time 起振时间	5mS max.	To 90% of Final Amplitude
16	Enable Voltage High (Logic 1) 使能高电平	70%Vdd min.	Output will be enable if OE is Logic 1 or open ; Output will be disable if OE is Logic 0. 输出使能OE是高电平1或者悬空，频率输出； 输出使能OE是低电平0，则无频率输出。
17	Enable Voltage Low (Logic 0) 使能低电平	30%Vdd max.	
18	Enable Delay Time 使能延迟	2 mS max.	
19	Aging 老化	±3ppm	1st. Year at 25°C

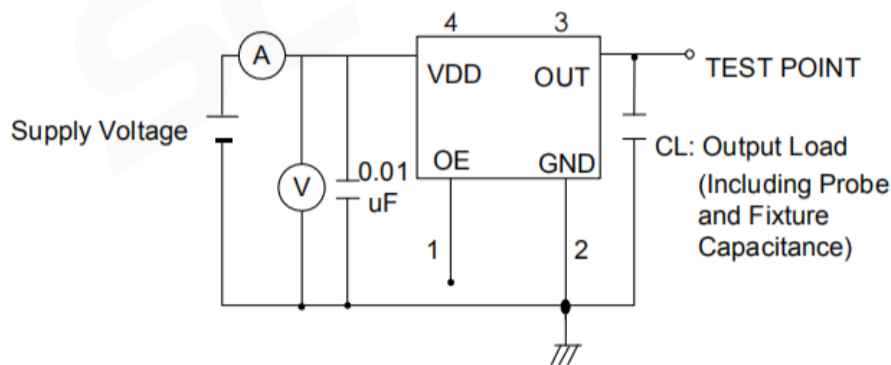
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## ■ DIMENSIONS 产品尺寸



## ■ TESTING CIRCUIT 测试电路



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

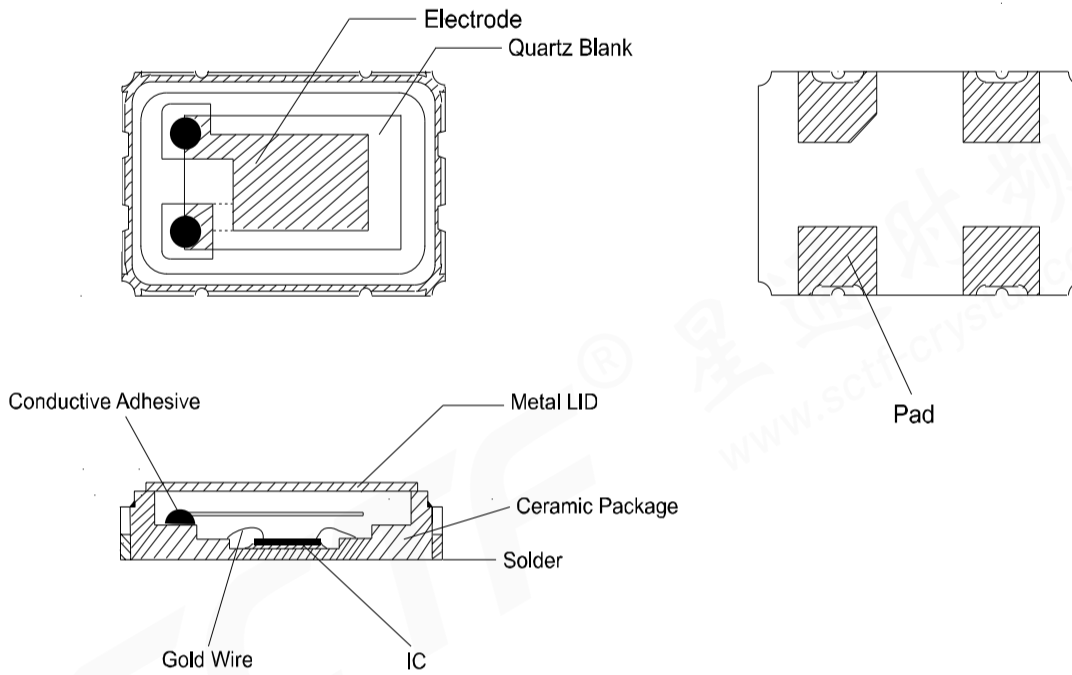
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■ **WAVEFORM CONDITIONS** 输出波形

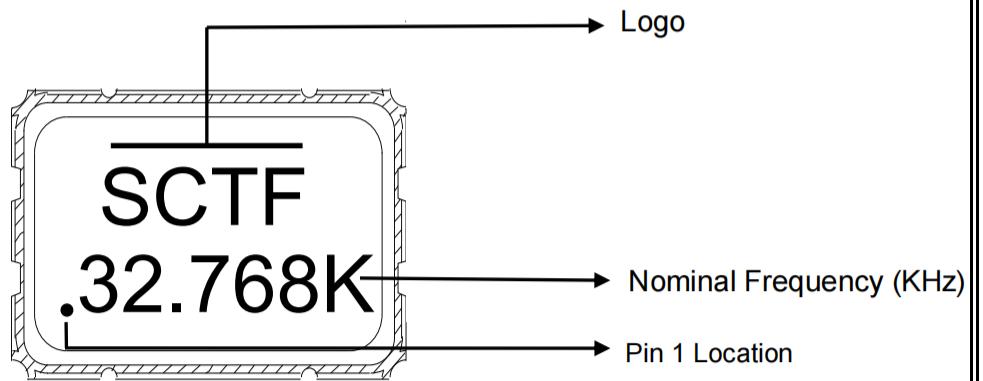


Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.

■ **Product Structure** 产品结构



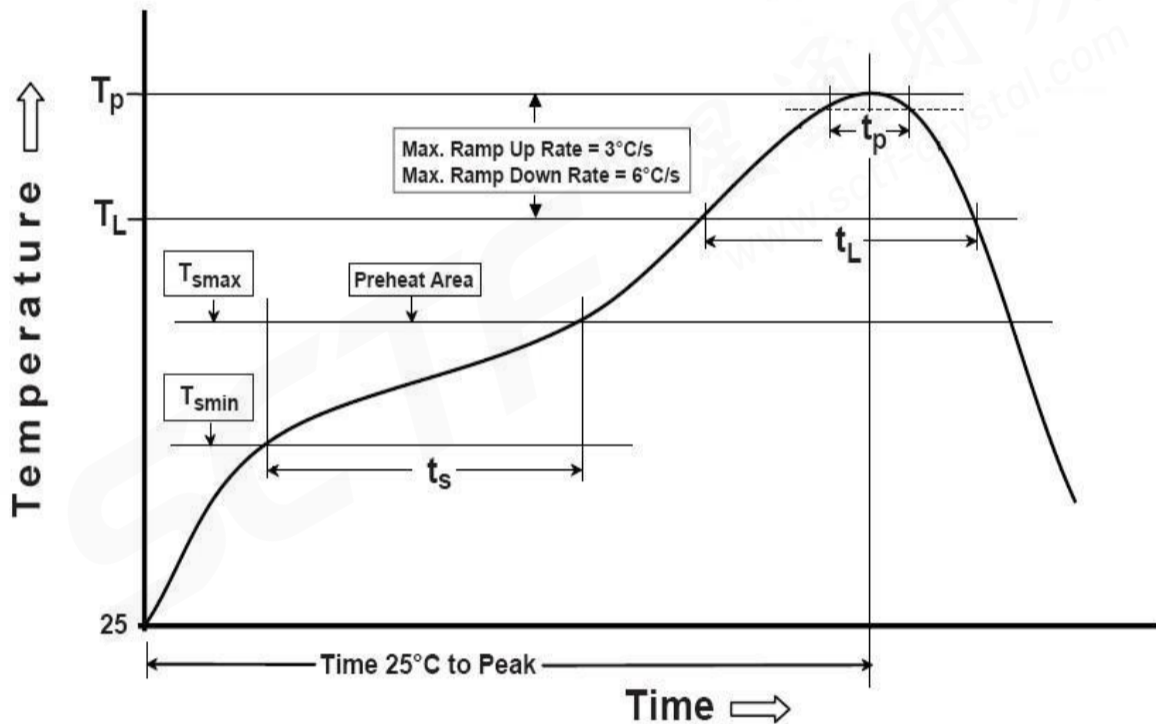
■ **Marking** 印字



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## REFLOW PROFILES 回流焊条件

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



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## ■ RELIABILITY SPECIFICATION 可靠性参数

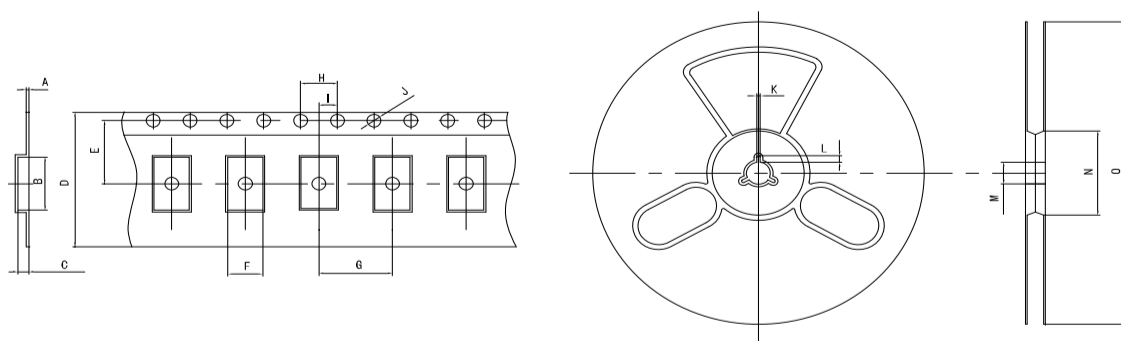
序号 NO.	项目 ITEM	条件 CONDITIONS	合格标准 BASIS OF VERDICT
1	跌落 Drop	100cm高处自由跌落到3cm厚木板上,3次 High:100cm;Thickness:3cm;3 times.	$\Delta FL \leq \pm 5 \text{ppm}$
2	振动 Vibration	频率 Frequency:10~500Hz: 速度 speed : 11min/cycle 幅度 Amplitude:1.5mm (10~55Hz) 加速度幅度 acceleration rate:200m/s <sup>2</sup> (55~500Hz) 振动方向 Direction:X,Y, Z 测试周期 Test cycle : 10cycles	$\Delta FL \leq \pm 5 \text{ppm}$
3	低温存储 Low Temperature Storage	温度:-40℃±2℃;时间:96小时 Temp:-40℃±2℃;Times:96h	$\Delta FL \leq \pm 5 \text{ppm}$
4	高温存储 High Temperature Storage	温度:125℃±2℃;时间:96小时 Temp:125℃±2℃;Times:96h	$\Delta FL \leq \pm 5 \text{ppm}$
5	高温高湿 High Temp&Homidit	温度:85℃±2℃;湿度85%±5%;时间:1000小时 Temp:80℃±2℃;Humidity:85%±5%;Times:1000h	$\Delta FL \leq \pm 5 \text{ppm}$
6	冷热冲击 Thermal Shock	-40℃±2℃ (30min) ↔ 85℃±2℃ (30min);循环100次 -40℃±2℃ (30min) ↔ 85℃±2℃ (30min);For 100 cycles	$\Delta FL \leq \pm 5 \text{ppm}$
7	回流焊 Reflow	150℃±5℃保持120s后升到260℃±5℃保持10s, 升温 and 保温时间小于200s, 常温放置1~2h后测定 Keep 150 °C ± 5 °C 120s and then rose to 265 °C ± 5 °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℃;时间:24小时 Salt density:5%;Temp:35℃;Times:24h	目测无明显腐蚀现象 Visual no significant corrosion.
9	老化 Aging	温度:85℃;时间:30天 Temp:85℃;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 $1.0 \times 10^{-9} \text{Pa m}^3/\text{s}$ . < $1.0 \times 10^{-9} \text{Pa m}^3/\text{s}$ .
11	可焊性 Soldering Test	在245℃±5℃的锡槽中浸渍3±0.5秒。 Dipping in solder bath at 245deg.C ±5deg.C for 3±0.5 sec.	浸锡率大于95% Soldering tin rate greater than 95%

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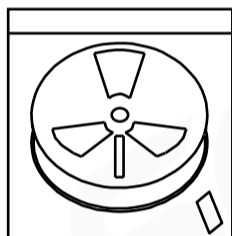
## ■ Taping Specifications 编带规格

UNIT(单位):mm(毫米)

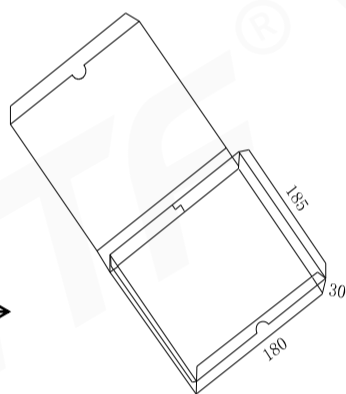


TEYE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5×3.2 SMD	0.30	7.50	1.50	12.00	5.50	3.70	8.00	4.00	2.00	1.50	2.00	4.00	13.00	60.00	180.00

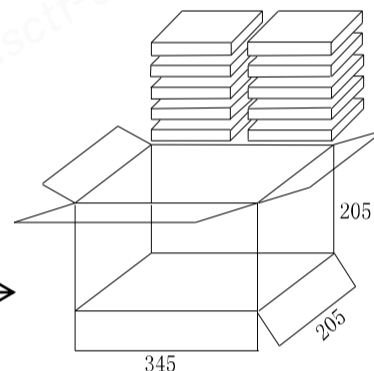
## ■ Packaging specifications 包装规格



自封袋 (Bag)  
1000只 = 1 轮  
1000pcs = 1 Reel



内包装 (Inside package)  
1 轮=1 盒  
1 Reel=1 box



外包装 (Outside Package )  
10 盒=1 箱  
10 box=1 carton

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