编号	SCTF2021X549
日期	2021-9-30
版本	B01

承 认 书

SPECIFICATION FOR APPROVAL

客户名称 Customer Name：	0
供应商物料名称 Part Name：	石英晶体振荡器
产品描述 Description：	SMD3225 33.000MHz/5.0V
供应商物料料号 Part NO.：	SX3M33.000A20F30TNN
供应商名称 Supplier Name ：	深圳市星通时频电子有限公司

PLEASECONFIRMOURSPECIFICATION。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

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RoHS Compliant

Revision Record				
Rev.	Revise page 修订页	Revise contents 修订内容	Rev. Date 修订日期	Reviser 修订人
A02	N/A	Initial released.	2013-1-1	Martin.Hu
A03	N/A	The version is upgraded and the content remains unchanged.	2018-2-25	Martin.Hu
B01	Page2	The version is upgraded and add revision record page.	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	SMD3225	
2	Nominal Frequency 标称频率	33.000000 MHz	
3	Frequency stability 常温频差	±20PPM	at 25℃±2℃
4	Temperature Drift 温度频差	±30PPM	at -40～85℃
5	Operating voltage 工作电压	5.0V	±10% max.
6	Output 输出模式	CMOS	
7	Output load condition 负载	15pF	
8	Current consumption 消耗电流	10 mA max.	
9	Operating temperature range 工作温度范围	-40～85℃	
10	Storage Temperature Range 存储温度范围	-55～125℃	
11	Duty Cycle 占空比	45%-55%	
12	Rise / Fall Time 上升/下降沿时间	5 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	150 uS max.	
19	Aging 老化	±3ppm	1st. Year at 25℃

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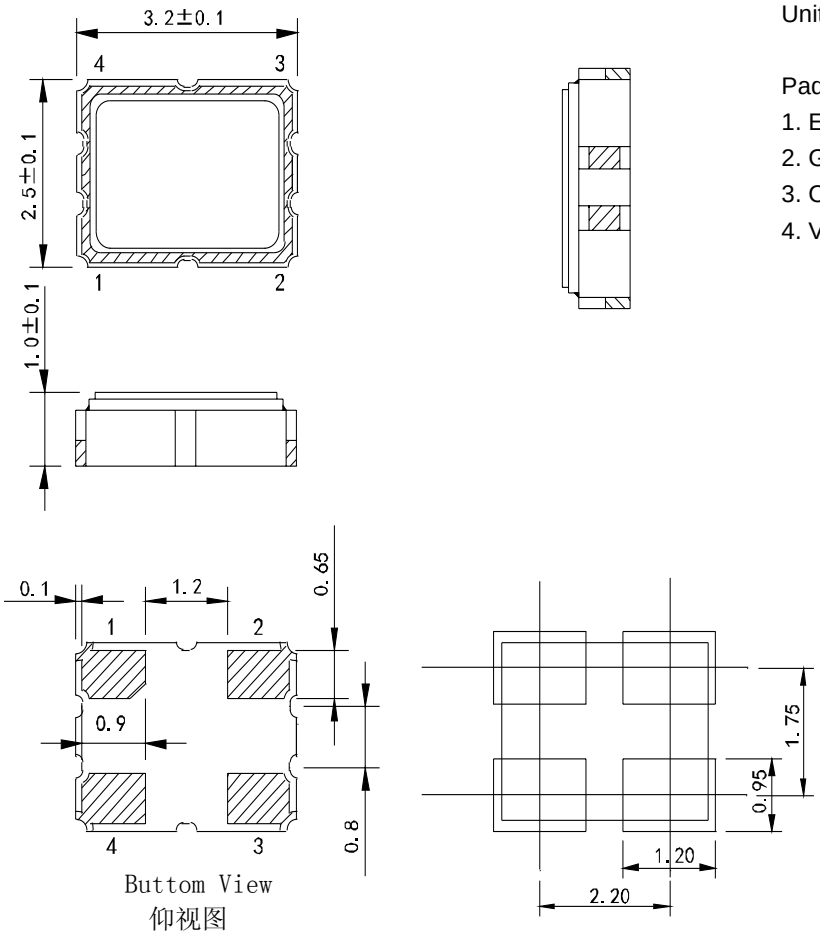
■ DIMENSIONS 产品尺寸

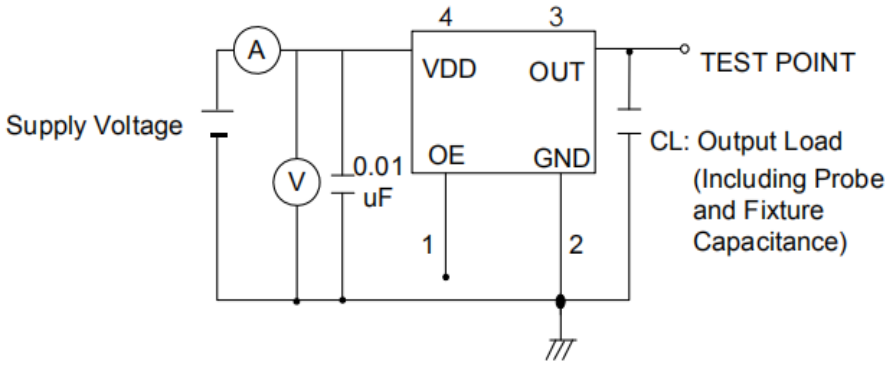


Units (单位)：mm(毫米)

Pad Functions:
1. ENABLE CONTROL
2. GND
3. OUT PUT
4. VDD

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

■ TESTING CIRCUIT测试电路



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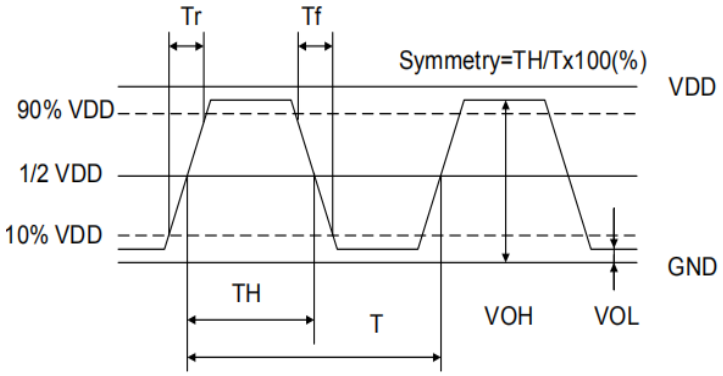
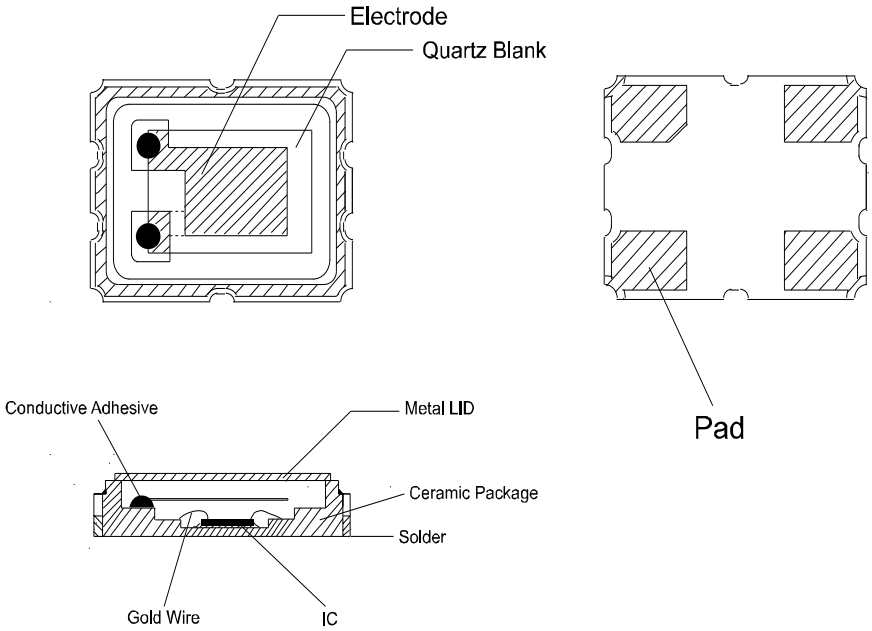
■ WAVEFORM CONDITIONS 输出波形

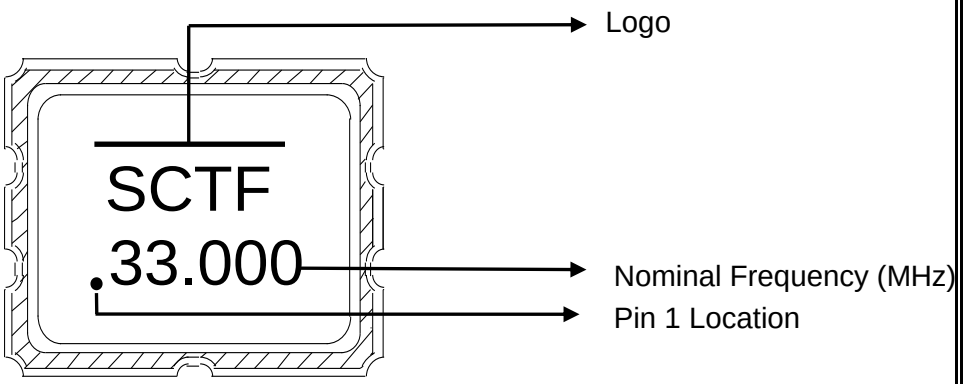


Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.

■ Product Structure



■ Marking



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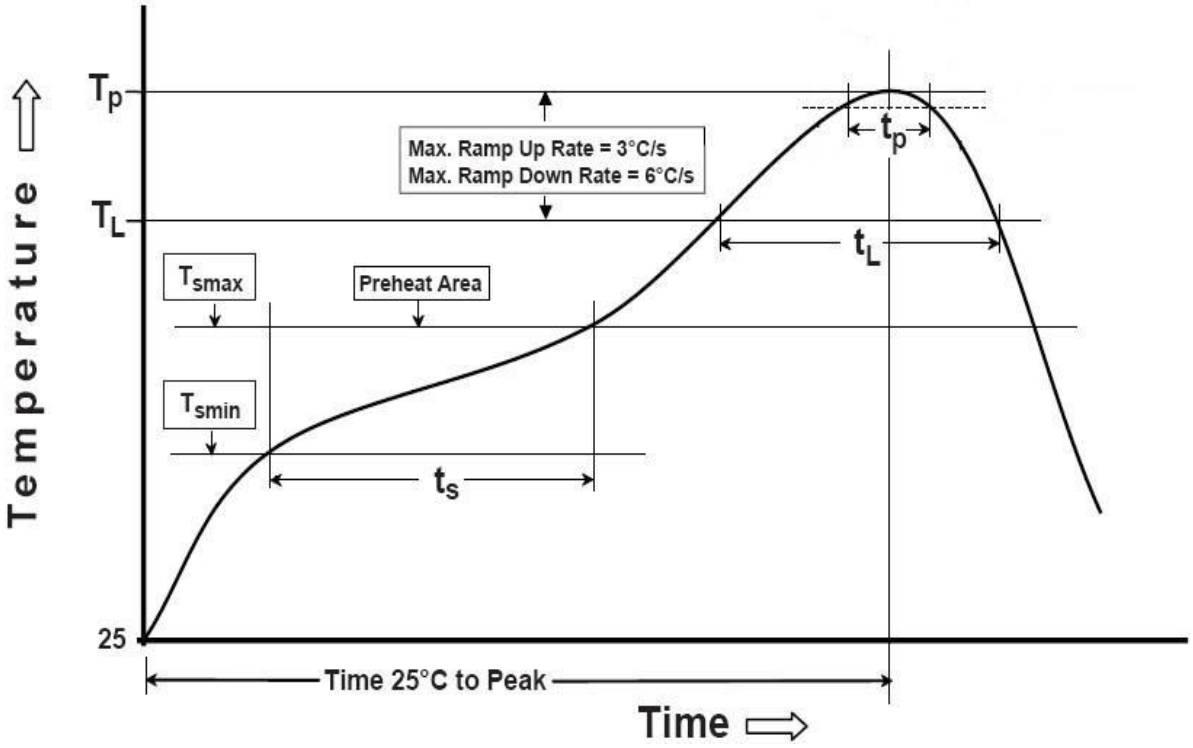
■ REFLOW PROFILES 回流焊条件

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat/Soak ●Temperature Min(Ts min) ●Temperature Max (Ts max) ●Time (Ts min to Ts max)	 100 °C 150 °C 60-120 seconds	 150 °C 200 °C 60-120 seconds
Ramp-up rate (T_L to Tp)	3 °C/second max.	3 °C/second max.
Time maintained above ●Liquidous temperature (T_L) ●Time (t_L) maintained above T_L	 183 °C 60-150 seconds	 217 °C 60-150 seconds
Peak package body temperature (Tp)	235℃	260℃
Time within 5 °C of the specified classification temperature (Tp)	20 seconds	30 seconds
Ramp-down rate (Tp to T_L)	6 °C/second max.	6 °C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.
Suggust reflow times	**3 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	100cm高处自由跌落到3cm厚木板上,3次 High:100cm;Thickness:3cm;3 times.	△FL≤±5ppm
2	振动 VIBRATION	频率 Frequency:10~57.7Hz:幅度 Amplitude:±0.75mm 频率Frequency:57.7Hz~500Hz:加速度幅度acceleration rate:98m/s2 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.	△FL≤±5ppm
3	温度变化 TEMPERATURE SHOCK	-40℃±2℃（30min）←→85℃±2℃（30min）;循环10次 -40℃±2℃（30min）←→85℃±2℃（30min）;For 10 cycles	△FL≤±5ppm
4	湿热 HUMIDITY	温度:40℃±2℃;湿度90-95%;时间:96小时 Temp:40℃±2℃;Humidity:90-95%;Times:96h	△FL≤±5ppm
5	低温 COLD RESISTANCE	温度:-40℃±2℃;时间:96小时 Temp:-40℃±2℃;Times:96h	△FL≤±5ppm
6	高温1 HEAT RESISTANCE 1	温度:100℃±2℃;时间:96小时 Temp:100℃±2℃;Times:96h	△FL≤±5ppm
7	高温2 HEAT RESISTANCE 2	温度:155℃±2℃;时间:2小时 Temp:155℃±2℃;Times:2h	△FL≤±5ppm
8	高温3 HEAT RESISTANCE 3	温度:85℃±2℃;电压:3.3V/5.0V;时间:96小时 Temp:85℃±2℃;Voltage:3.3V/5.0V;Times:96h	△FL≤±5ppm
9	回流焊 REFLOW	150℃±5℃保持120s后升到270℃±5℃保持10s，升温和保温时间小于200s，常温放置1～2h后测定 Keep 150 ℃ ± 5 ℃ 120s and then rose to 270 ℃ ± 5 ℃ for 10s, warming and holding time is less than the 200s, placed at room temperature 1 ~ 2h after test	△FL≤±5ppm
10	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.
11	老化 AGING	温度:85℃;时间:30天 Temp:85℃;Times:30days	△FL≤±5ppm
12	气密性 LEAKAGE	氦气(0.6~0.65MPa):10分钟 He(0.6~0.65MPa):10min	≤3*10-9Pa.m3/s
13	焊接 SOLDER	温度:260℃±5℃ Temp:260℃±5℃	浸锡率大于90% Soldering tin rate greater than 90%

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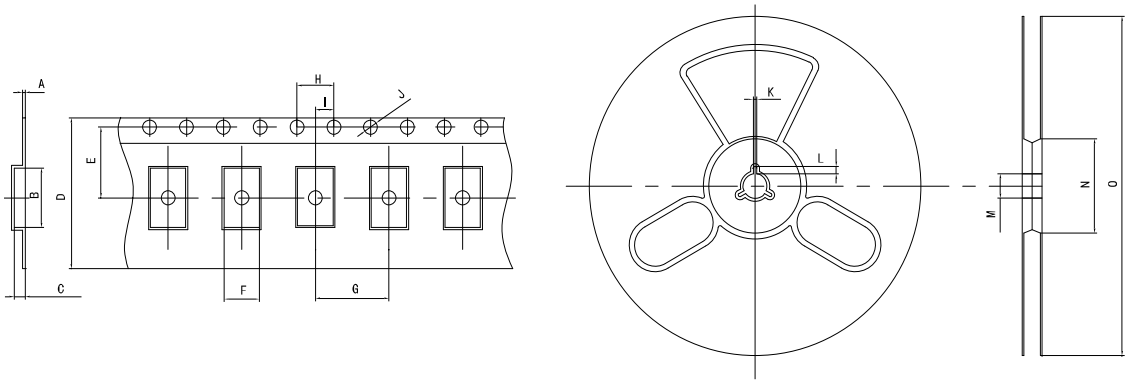
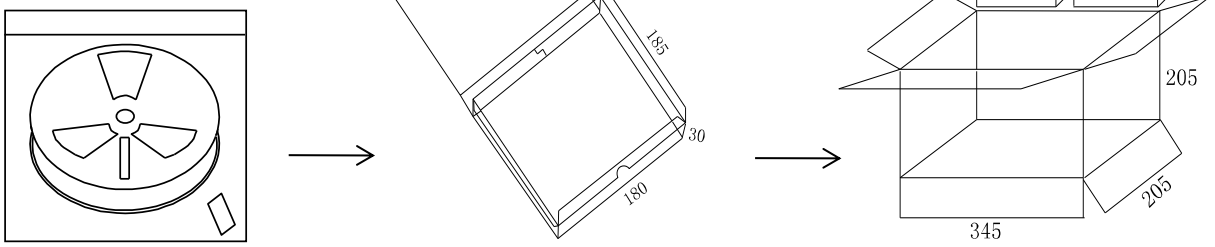
■ Taping Specifications

UNIT(单位):mm(毫米)



TEYE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
3.2×2.5 SMD	0.25	3.60	1.30	8.00	3.50	2.90	4.00	4.00	2.00	1.50	2.00	4.00	13.00	60.00	180.00

■ Packaging specifications



自封袋(Bag)
3000只 = 1 轮
3000pcs = 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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单击下面可查看定价，库存，交付和生命周期等信息

>>SCTF(星通时频)

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