



承认书

SPECIFICATION FOR APPROVAL

客户名称 Customer Name:	Customer
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:	SMD3225 100.000MHz/3.3V/LVDS
供应商物料料号 Part NO.:	SX3DF100.000B20F30DNN
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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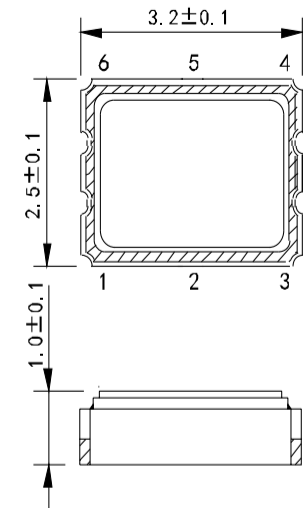
■ Electrical Specification 电气参数

N0.	Item	Electrical Spec.	Notes
1	Holder Type 封装	SMD3225	
2	Nominal Frequency 标称频率	100.000000 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	3.3V	±5% max.
6	Output 输出模式	LVDS	
7	Output load 输出负载	100Ω	
8	Current consumption 消耗电流	50 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	2 nS max.	20~80%V _{DD}
13	High output voltage 高电平	1.6V max.	
14	Low output voltage 低电平	0.9V min.	
15	Start-up Time 起振时间	10mS max.	To 90% of Final Amplitude
16	Phase noise 相位噪声	-120dBc/Hz max.	at 1KHz offset
17	RMS Phase Jitter 均方根抖动	0.5pSec max.	12KHz - 20MHz
18	Enable Voltage High (Logic 1) 使能高电平	70%V _{dd} 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。
19	Enable Voltage Low (Logic 0) 使能低电平	30%V _{dd} max.	
20	Aging 老化	±3ppm	1st. Year at 25℃

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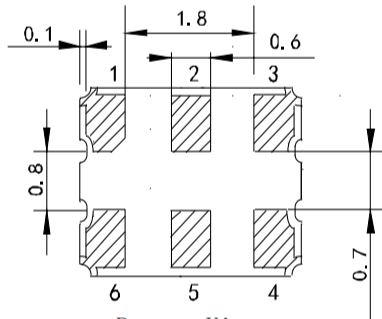
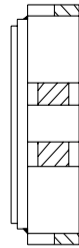
■ DIMENSIONS 产品尺寸



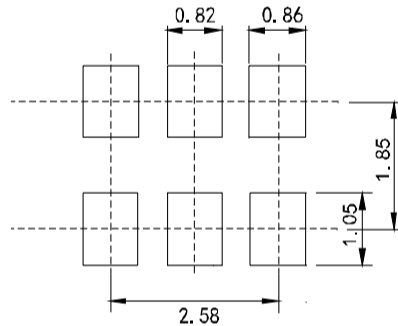
Units (单位): mm(毫米)

Pad Functions:

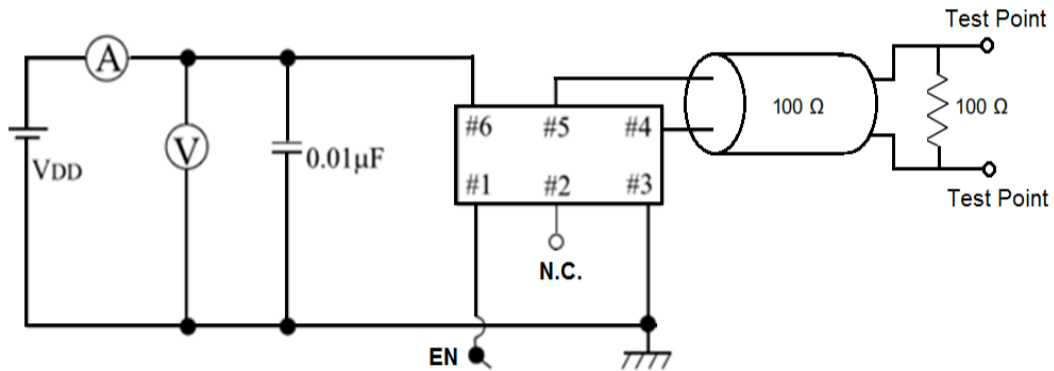
- 1. EN
- 2. NC
- 3. GND
- 4. Output
- 5. Comp Output
- 6. VDD



Bottom View
仰视图



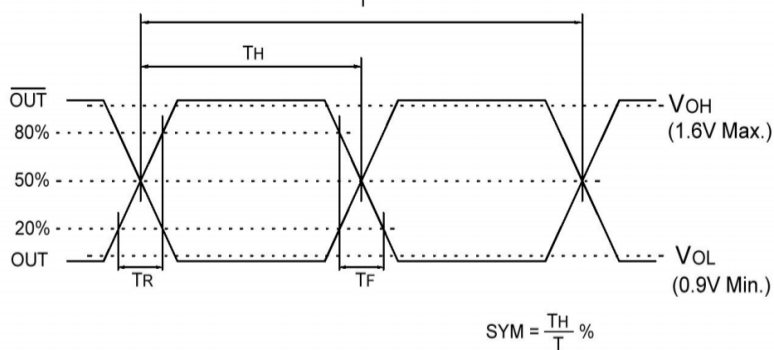
■ TESTING CIRCUIT测试电路



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

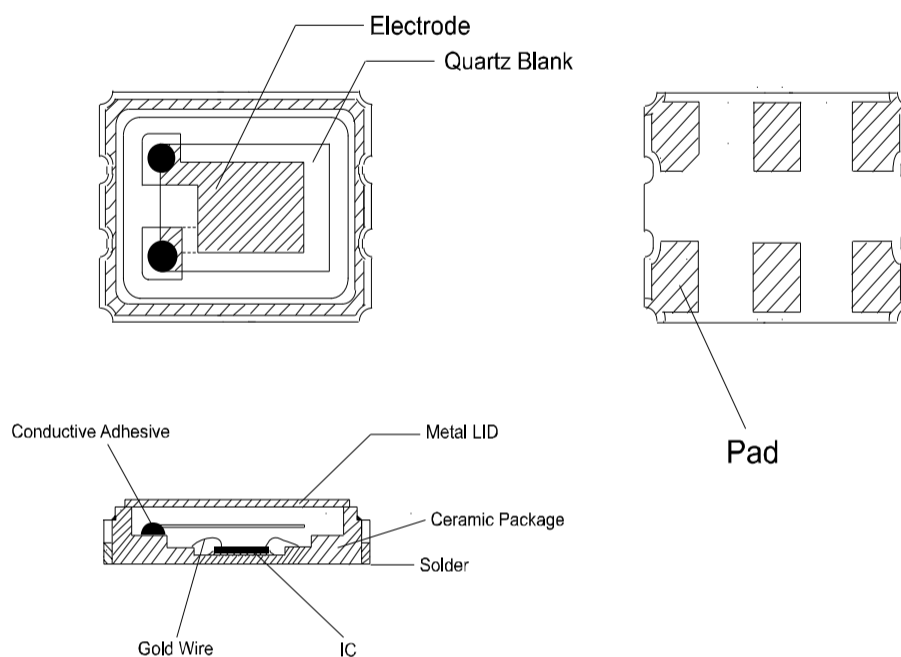
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■ WAVEFORM CONDITIONS 输出波形

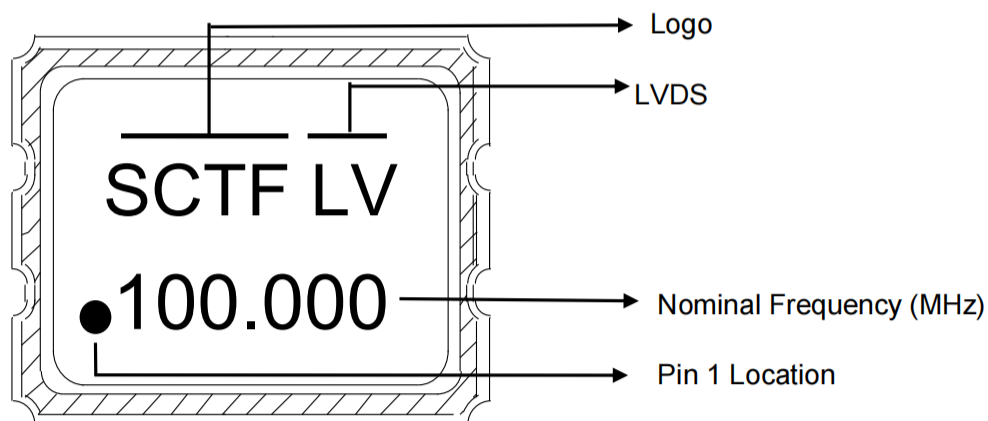


Waveform measurement system should have a min. bandwidth of 5 times the frequency being tested.

■ Product Structure 产品结构



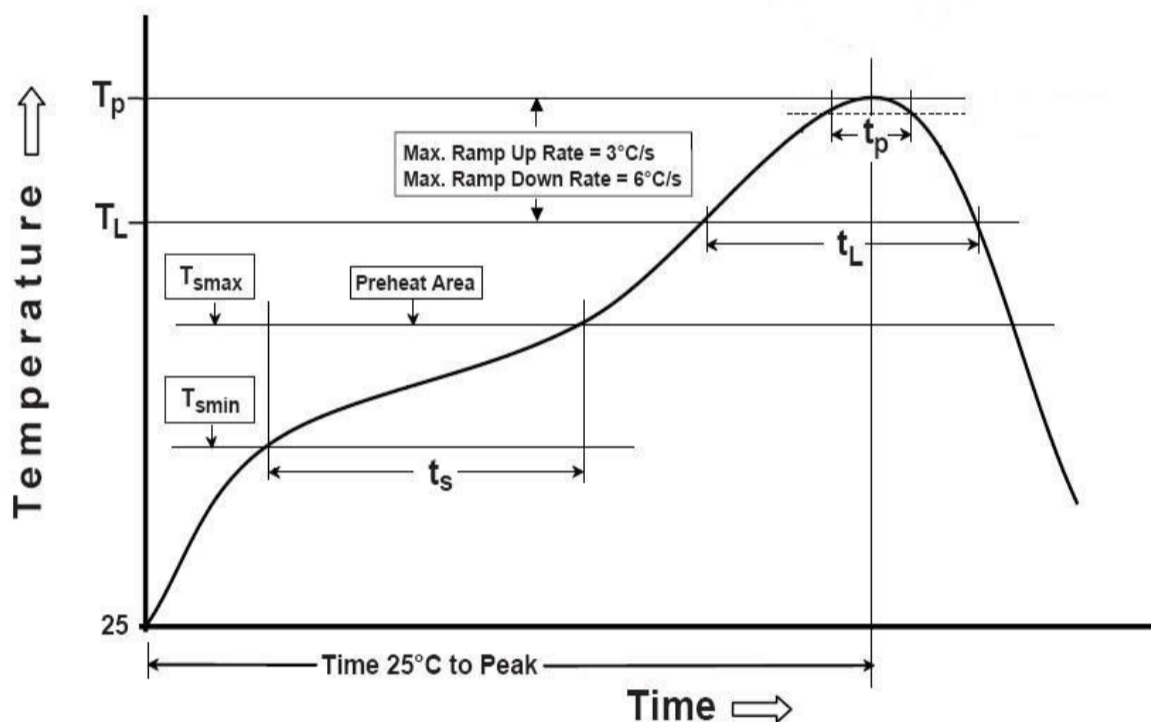
■ Marking 印字



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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

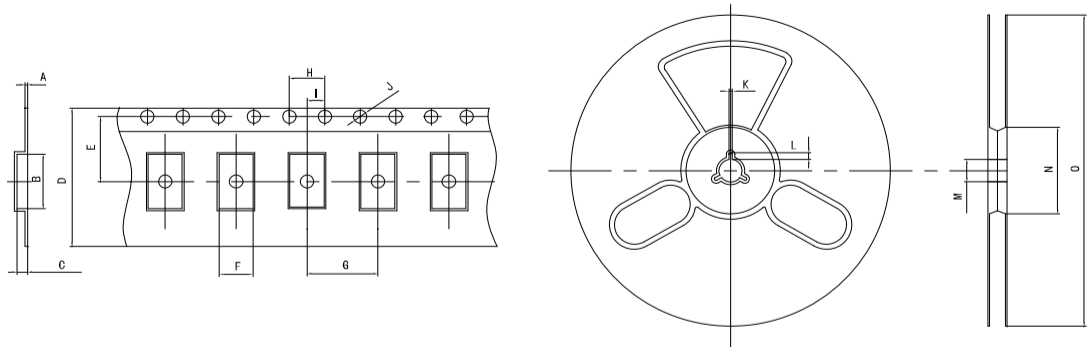
序号 NO.	项目 ITEM	条件 CONDITIONS	合格标准 BASIS OF VERDICT
1	跌落 DROP	55cm高处自由跌落到3cm厚木板上,3次 High:55cm;Thickness:3cm;3 times.	$\Delta FL \leq \pm 5 \text{ppm}$
2	振动 VIBRATION	频率 Frequency:10~57.7Hz;幅度 Amplitude: $\pm 0.75 \text{mm}$ 频率Frequency:57.7Hz~500Hz;加速度幅度acceleration rate:98m/s ² 周期 Cycle time:10-500-10Hz: 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	温度变化 TEMPERATURE SHOCK	-40℃ $\pm 2^\circ\text{C}$ (30min) $\longleftrightarrow$ 85℃ $\pm 2^\circ\text{C}$ (30min);循环10次 -40℃ $\pm 2^\circ\text{C}$ (30min) $\longleftrightarrow$ 85℃ $\pm 2^\circ\text{C}$ (30min);For 10 cycles	$\Delta FL \leq \pm 5 \text{ppm}$
4	湿热 HUMIDITY	温度:40℃ $\pm 2^\circ\text{C}$;湿度90-95%;时间:96小时 Temp:40℃ $\pm 2^\circ\text{C}$;Humidity:90-95%;Times:96h	$\Delta FL \leq \pm 5 \text{ppm}$
5	低温 COLD RESISTANCE	温度:-40℃ $\pm 2^\circ\text{C}$;时间:96小时 Temp:-40℃ $\pm 2^\circ\text{C}$;Times:96h	$\Delta FL \leq \pm 5 \text{ppm}$
6	高温1 HEAT RESISTANCE 1	温度:100℃ $\pm 2^\circ\text{C}$;时间:96小时 Temp:100℃ $\pm 2^\circ\text{C}$;Times:96h	$\Delta FL \leq \pm 5 \text{ppm}$
7	高温2 HEAT RESISTANCE 2	温度:155℃ $\pm 2^\circ\text{C}$;时间:2小时 Temp:155℃ $\pm 2^\circ\text{C}$;Times:2h	$\Delta FL \leq \pm 5 \text{ppm}$
8	高温3 HEAT RESISTANCE 3	温度:85℃ $\pm 2^\circ\text{C}$;电压:3.3V/5.0V;时间:96小时 Temp:85℃ $\pm 2^\circ\text{C}$;Voltage:3.3V/5.0V;Times:96h	$\Delta FL \leq \pm 5 \text{ppm}$
9	回流焊 REFLOW	150℃ $\pm 5^\circ\text{C}$ 保持120s后升到270℃ $\pm 5^\circ\text{C}$ 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 $\pm$ 5 °C 120s and then rose to 270 °C $\pm$ 5 °C for 10s, warming and holding time is less than the 200s, placed at room temperature 1 ~ 2h after test	$\Delta FL \leq \pm 5 \text{ppm}$
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	$\Delta FL \leq \pm 5 \text{ppm}$
12	气密性 LEAKAGE	氦气(0.6~0.65MPa):10分钟 He(0.6~0.65MPa):10min	$\leq 3 \times 10^{-9} \text{Pa} \cdot \text{m}^3/\text{s}$
13	焊接 SOLDER	温度:260℃ $\pm 5^\circ\text{C}$ Temp:260℃ $\pm 5^\circ\text{C}$	浸锡率大于90% Soldering tin rate greater than 90%

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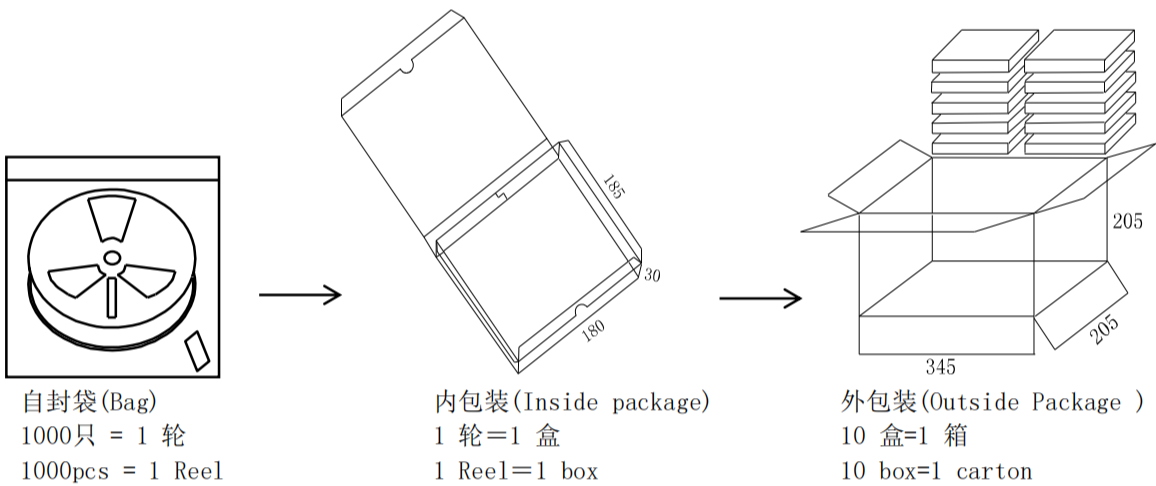
■ Taping Specifications编带规格

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	1.8	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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