

承 认 书

SPECIFICATION FOR APPROVAL

客户名称 Customer Name:	美格森电子（深圳）有限公司
供应商物料名称 Part Name:	石英晶体振荡器
产品描述 Description:	SMD7050 50.000MHZ 3.3.V
供应商物料料号 Part NO.:	S7M50.000B20E30T
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
		

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产品规格书

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3 QUARTZ CRYSTAL UNIT SPECIFICATION

1. 电气参数(Electrical Specification)

N0.	Item	spec.	Notes
1	Holder Type 封装	SMD7050	
2	Nominal Frequency 标称频率	50.000 MHz	
3	Frequency stability 常温频差	±20PPM	at 25℃±2℃
4	Temperature Drift 温度频差	±30PPM	at -20~70 ℃
4	Operating voltage 工作电压	3.3V	±10% MAX.
5	Output 输出模式	CMOS	
6	Output load condition 负载	15PF	
7	Current consumption 消耗电流	30 MAX.	
8	Operating temperature range 工作温度范围	-20~70 ℃	
9	Storage Temperature Range 保存温度范围	-40~85 ℃	
10	Duty Cycle 占空比	45%-55%	
11	Rise / Fall Time 上升/下降沿时间	3 nS Max.	
12	High output voltage 高电平	0.9Vdd Min	
13	Low output voltage 低电平	0.1Vdd Max	
14	Jitter 抖动	40 pSec Max.	Period Jitter (Pk-Pk)
15	Aging 老化率	± 3ppm	
16	Others 其他	RoHS	

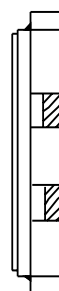
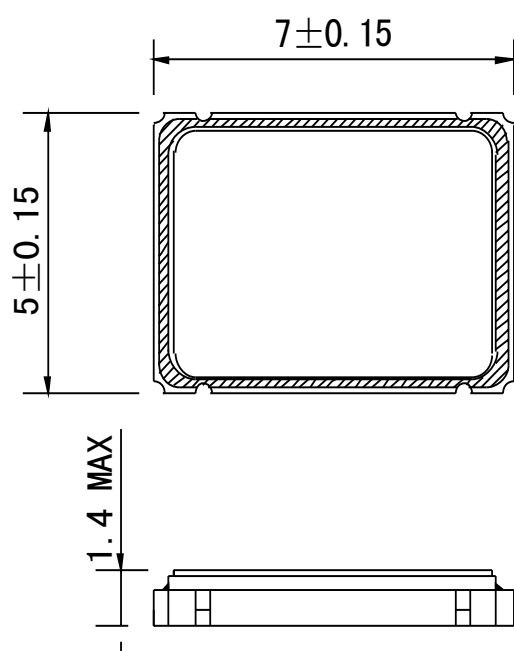
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4 DIMENSIONS

产品尺寸 (Product size)

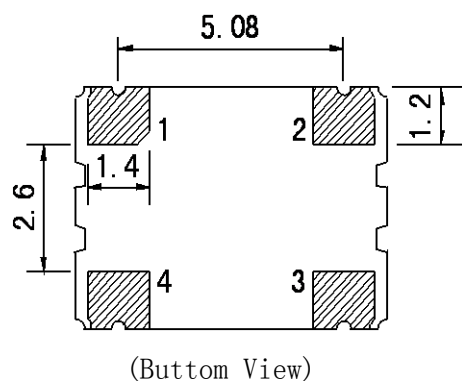
Units (单位): mm(毫米)



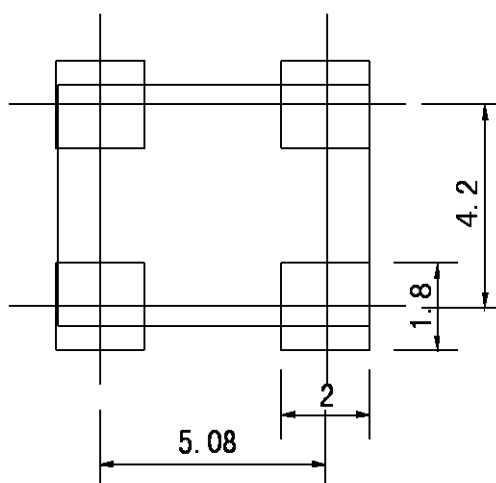
PIN	FUNCTION
1	N/C or Tri-state
2	Ground
3	Output
4	Vdd

焊盘尺寸 (Pad size)

Units (单位): mm(毫米)



(Bottom View)

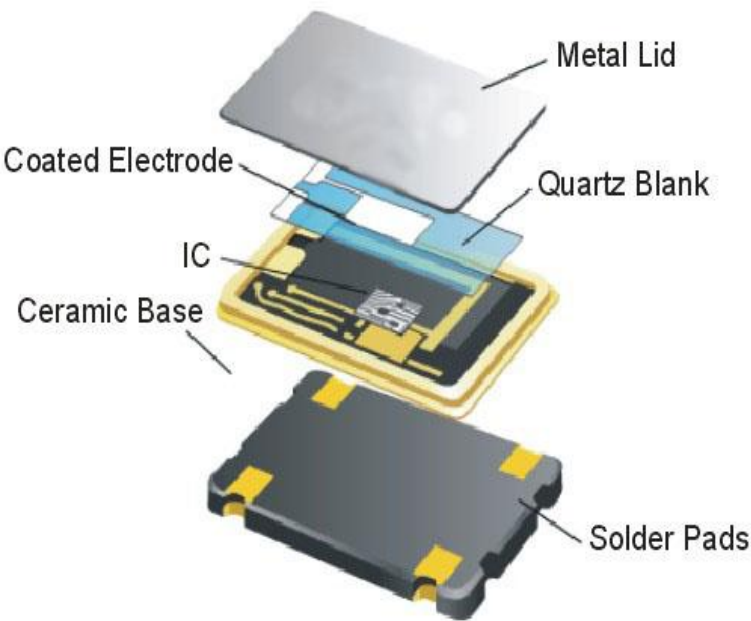


suggested solder pad layout

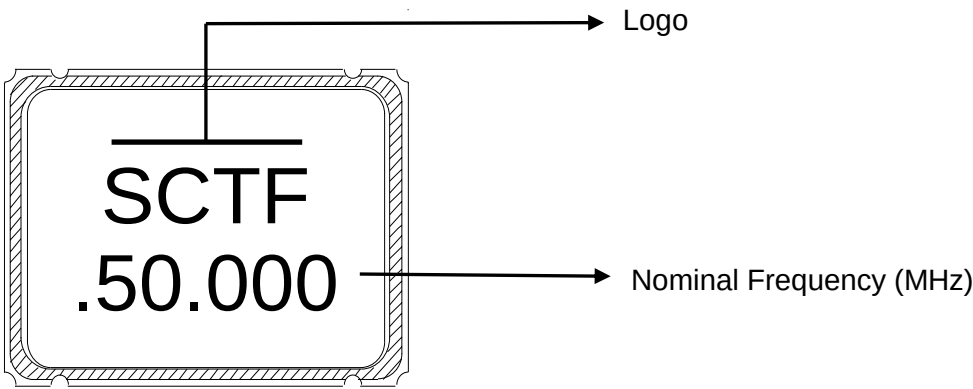
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5 PRODUCT STRUCTURE & MARKING

◆ Product Structure



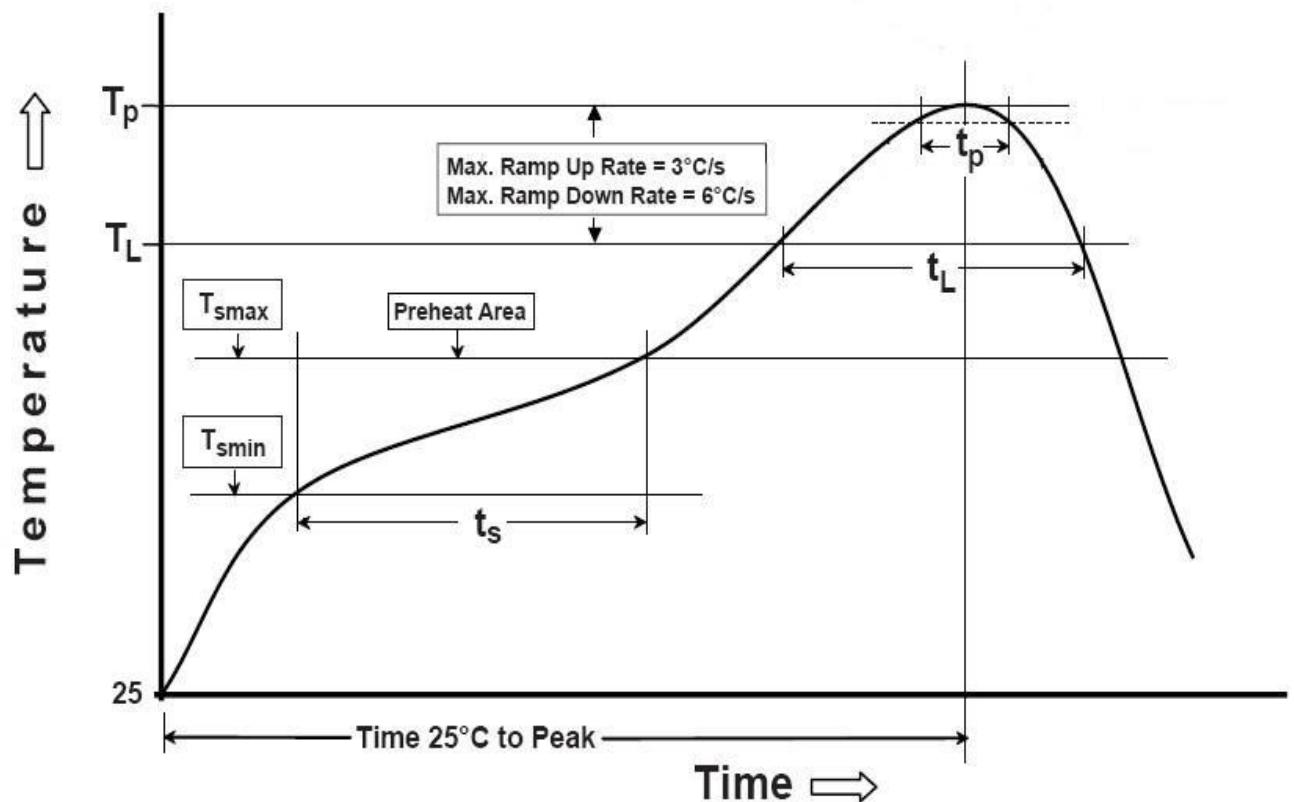
◆ Marking



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6 REFLOW PROFILES

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.
Suggest reflow times	5 Times max.	



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7 RELIABILITY SPECIFICATION

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.	$\Delta FL \leq \pm 5PPM$
2	振动 VIBRATION	频率 Frequency:10~57.7Hz;幅度 Amplitude: $\pm 0.75mm$ 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.	$\Delta FL \leq \pm 5PPM$
3	温度变化 TEMPERATURE SHOCK	-40℃ $\pm 2^\circ C$ (30min) $\longleftrightarrow$ 85℃ $\pm 2^\circ C$ (30min);循环10次 -40℃ $\pm 2^\circ C$ (30min) $\longleftrightarrow$ 85℃ $\pm 2^\circ C$ (30min);For 10	$\Delta FL \leq \pm 5PPM$
4	湿热 HUMIDITY	温度:40℃ $\pm 2^\circ C$;湿度90-95%;时间:96小时 Temp:40℃ $\pm 2^\circ C$;Humidity:90-95%;Times:96h	$\Delta FL \leq \pm 5PPM$
5	低温 COLD RESISTANCE	温度:-40℃ $\pm 2^\circ C$;时间:96小时 Temp:-40℃ $\pm 2^\circ C$;Times:96h	$\Delta FL \leq \pm 5PPM$
6	高温1 HEAT RESISTANCE 1	温度:100℃ $\pm 2^\circ C$;时间:96小时 Temp:100℃ $\pm 2^\circ C$;Times:96h	$\Delta FL \leq \pm 5PPM$
7	高温2 HEAT RESISTANCE 2	温度:155℃ $\pm 2^\circ C$;时间:2小时 Temp:155℃ $\pm 2^\circ C$;Times:2h	$\Delta FL \leq \pm 5PPM$
8	高温3 HEAT RESISTANCE 3	温度:85℃ $\pm 2^\circ C$;电压:3.3V/5.0V;时间:96小时 Temp:85℃ $\pm 2^\circ C$;Voltage:3.3V/5.0V;Times:96h	$\Delta FL \leq \pm 5PPM$
9	回流焊 REFLOW	150℃ $\pm 5^\circ C$ 保持120s后升到270℃ $\pm 5^\circ C$ 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	$\Delta FL \leq \pm 5PPM$
10	盐雾 SALT SPRAY	盐雾浓度:5%;温度:35℃;时间:96小时 Salt density:5%;Temp:35℃;Times:96h	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	$\Delta FL \leq \pm 5PPM$
12	气密性 LEAKAGE	氦气(0.6~0.65MPa):10分钟 He(0.6~0.65MPa):10min	$\leq 3 \times 10^{-9} Pa \cdot m^3/s$
13	焊接 SOLDER	温度:235℃ $\pm 5^\circ C$ Temp:235℃ $\pm 5^\circ C$	浸锡率大于90% Soldering tin rate greater than 90%

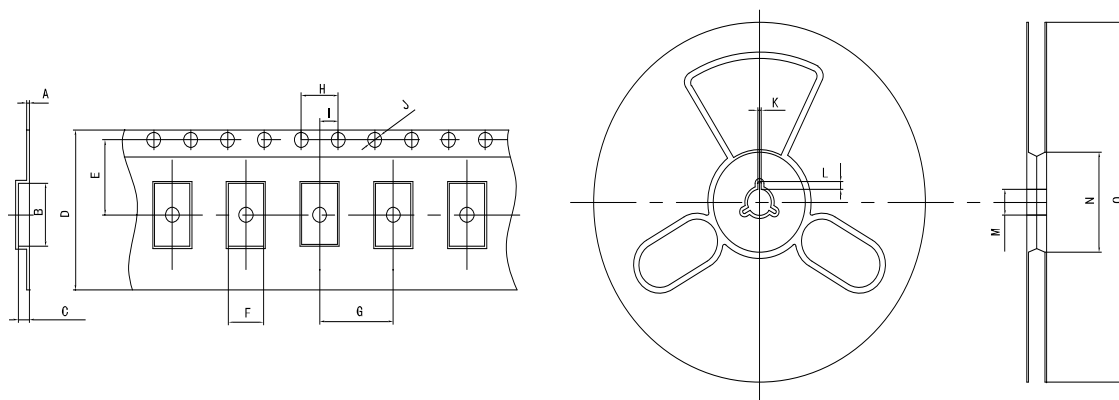
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8 PACKAGE

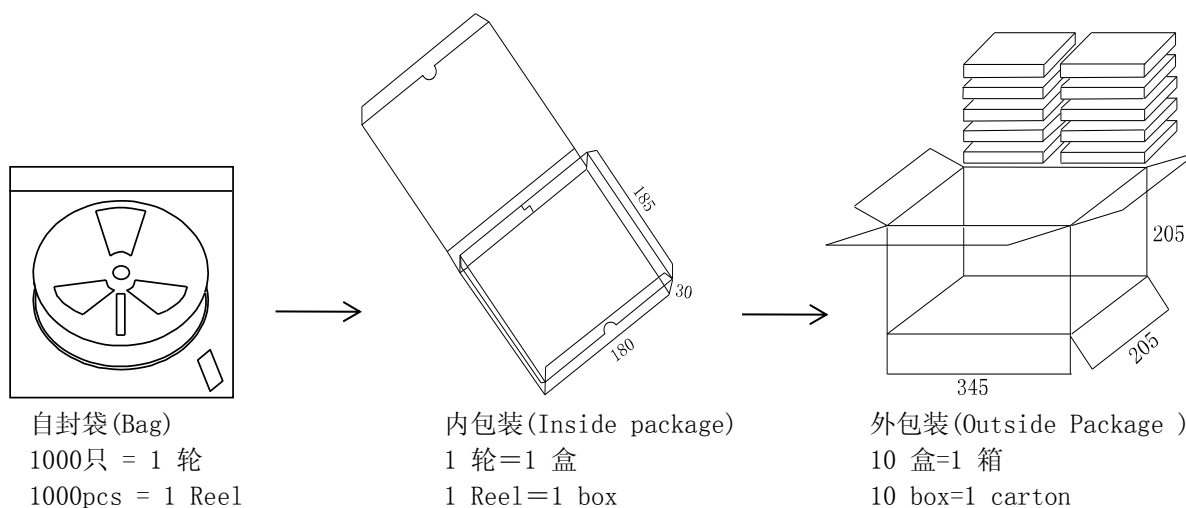
◆ Taping Specifications

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	7.5	5.5	8	4	2	1.5	2	4	13	50	180

◆ Packaging specifications



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