



深圳扬兴科技有限公司
YangXing Technology Co.,Ltd.of Shenzhen

产 品 规 格 书

SPECIFICATION

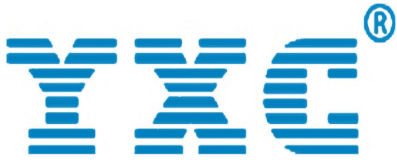
产 品 名 称	石英晶体谐振器 QUARTZ CRYSTAL UNITS
型 号	YSX531SL
料 号	X503248MSB4SI
标 称 频 率	48MHZ-20PF-10PPM
页 次	共 6 页

批 准	审 核	拟 制
Kevin	Sandy	Andy

确 认 签 章

APPROVAL SIGNATURE

客 户		
客户物料号		
机种 / 型号		
批 准	审 核	检 验



深圳扬兴科技有限公司

YXCP/N: YXC15 00073 REV: A

产品规格书/ SPECIFICATION

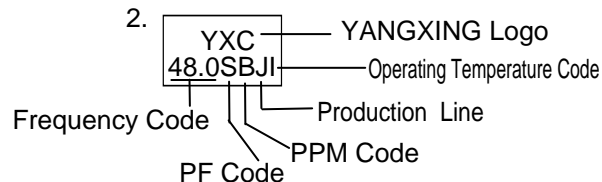
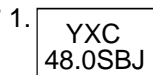
型号

YSX531SL

● ELECTRICAL PARAMETERS

谐振器产品技术指标		Min	Max	Units
1. Holder Type(型号规格)		SEAM 5.0*3.2		
2. Mode of Oscillation (振动模式)		Fundamental		
3. Frequency (标称频率)		48.000000		MHz
4. Load Capacitance (CL) (负载电容)		20		pF
5. Drive Level (激励功率)		100		uw
6. Equivalent Resistance (谐振电阻)			30	Ω
7. Shunt Capacitance (Co) (静态电容)		2.3	2.9	pF
8. Motional Capacitance (C1) (动态电容)		N/A	N/A	fF
9. Frequency Tolerance at 25°C (调整频差)		-10	10	ppm
10. Stability over operation temperature (温度频差)		± 50		ppm
11. Insulation Resistance (at DC 100V) (绝缘电阻)		500		MΩ
12. Operating Temperature Range (工作温度范围)		-40	85	°C
13. Storage Temperature Range (储存温度范围)		-40	85	°C
14. Aging (老化率)		± 3		ppm/year
15. DLD2	N/A		N/A	Ω
16. FLD2			N/A	ppm
17. RLD2			N/A	Ω
18. SPDB	N/A		N/A	db
19. Other(其它)		N/A		

20. 标字 Marking



21. 外形尺寸 5.0*3.2*0.90mm
Dimensions

测试仪表 Equipment 250B Crystal Impedance Meter



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III. 包装 PACKING

包装方式应符合运输和装卸要求，特殊包装须经双方认可。

Packing must prevent damage during transportation and handing. Specific method will be settled by mutual agreement.

IV. 对环境影响 INFLUENCE TO ENVIRONMENT

本产品在生产过程中不使用 ODS I，对臭氧层无破坏。

This product doesn't use the class I ODS at any of production process .

V. 生产厂家 MANUFACTURE

公司名称: **深圳扬兴科技有限公司**

YangXing Technology Co.,Ltd.of Shenzhen

VI. 其它 OTHERS

1. 如果您对本公司产品规格书有疑问或书中未列出，请与我方联系，协商解决及改进。

If you have some doubt or unknowing about this specification, Please contact us for settlement or development.

2. 我们按照产品规格书要求保证晶体品质，若客户要求具体数据，我们可提供。

We guarantee that quartz crystal unit satisfies this specification, If you need the data, we will provide it.

3. 变更与联络 (MODIFY AND CONTACT)

本产品在设计、工艺、材料、生产厂所、关键设备、操作人员等影响产品质量的因素有变更时，应事先提供更改后的产品并经过质量认可后，方可大批量供货。

When the quality is changed due to the changes of the design, technology, material, manufacture place, main equipment and workers, we will first supply the modified products and obtain approval from you, then start to supply mass production.

4. 售后服务 (AFTER SALE SERVICE)

若在生产过程中遇到不良品，本公司负责调换，并及时提交不良品的分析及改进措施报告经认可。

If the defection product was found in the production process, we will exchange and provide the improving measures in time.



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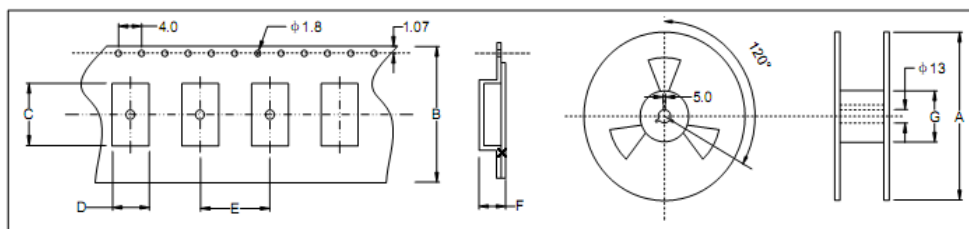
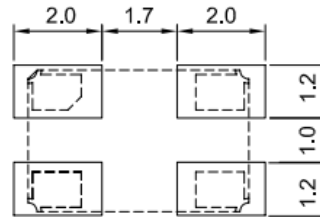
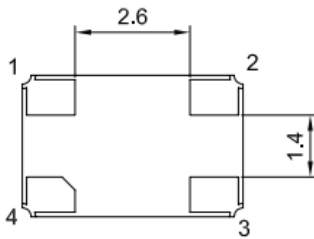
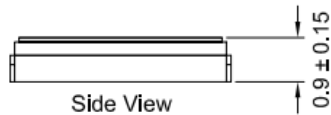
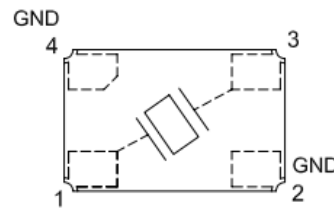
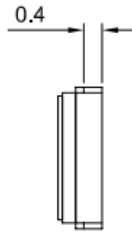
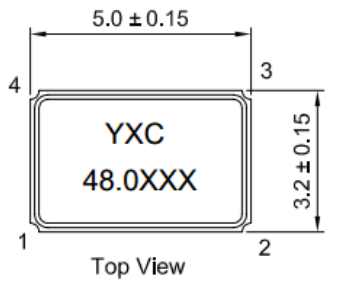
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VII. SMD5032 晶体外型/编带尺寸 Dimensions UNIT: mm



	A	B	C	D	E	F	G
SMD5032	178 ± 2.0	12.0 ± 0.3	5.80 ± 0.10	4.05 ± 0.10	7.65 ± 0.1	1.60 ± 0.10	57.15 ± 1.0
1000 pcs per reel							

SMD5032 编带尺寸图 (mm)

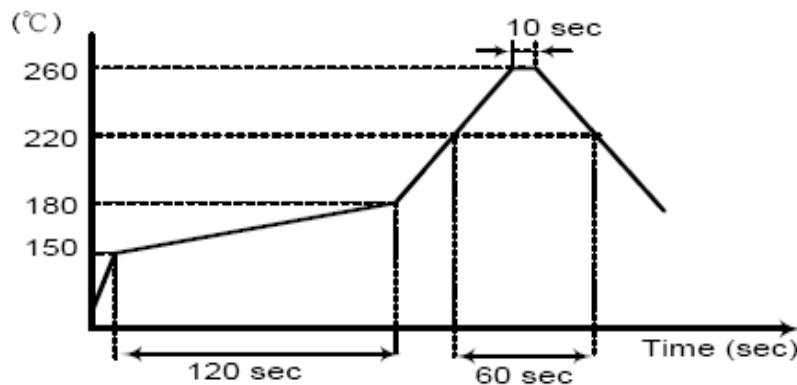


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- SUGGESTED REFLOW PROFILE (回流焊曲线图)
- Total time:200sec.Max. (总时间: 200秒 最大)
- Solder melting point:220°C (熔点220 °C)

Profiles Feature (特性)		Pb-Free Assembly
Average Ramp-up Rate(Ts max to Tp)	平均升温速度	3°C/second Max
Preheat	预热	
■ Temperature Min (Ts min)	最低温度	125°C
■ Temperature Max (Ts max)	最高温度	200°C
■ Time (ts min to ts max)	从最低到最高时间	(60~180) seconds
Time maintained above	维持上述时间	
■ Temperature(T1)	温度	217°C
■ Time(tp)	时间	(60~150) seconds
Peak/Classification Temperature(Tp)	最高点温度	260 °C
Time within 5°C of actual Peak Temperature(tp)	高温维持时间	(20~40) seconds
Ramp-down rate	降温速度	6°C/second max
Time 25°C to Peak Temperature	从25°C到最高温度的时间	8 minutes max
Suggest reflow times	建议 reflow次数	3 Times max





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● RELIABILITY SPECIFICATIONS (信赖度试验)

No	Test Item (测试项目)	Test Conditions (测试条件)	Reference (参考)
1	High Temperature High Humidity Storage (高温、高湿、储存)	Temperature: 85°C±3°C 温度: 85°C±3°C Relative Humidity: 85%RH 相对湿度: 85%RH Time: 96 Hours 时间: 96小时	JIS C5023
2	High Temperature Storage (高温储存)	Temperature: 125°C±3°C 温度: 125°C±3°C Time: 96 Hours 时间: 96小时	MIL-STD-883E Method 1005.8
3	Low Temperature Storage (低温储存)	Temperature: -40°C±3°C 温度: -40°C±3°C Time: 96Hours 时间: 96小时	MIL-STD-883E Method 1013
4	Thermal Shock (温度冲击)	Temperature1: -55°C±5°C 温度1: -55°C±5°C Temperature2: 85°C±5°C 温度2: 85°C±5°C Temperature change between T1 and T2 5 min T1和T2温度在5分钟内改变 10cycles maintain T1 and T2 for 30 minutes each mone cycle 每次循环30分钟共10次	MIL-STD-202F Method 107 Condition A
5	RESISTANCE TO SOLDER HEAT (耐焊接热)	Solder Temperature: 260°C±5°C 焊槽温度: 260°C±5°C Time: 10±1 Seconds 时间: 10±1秒	MIL-STD-202F Method 210E
6	Solderability(可焊性)	The solder pot temperature is 245±5°C , dwell time 5±0.5sec 245±5°C焊锡槽浸润5±0.5秒	J-STD-002B
7	Drop Test (落下试验)	3 Times Free Fall from 75cm height table to 3cm thickness hard wood board 从75cm高度3次跌落到3cm厚硬质木板上	JIS C6701
8	MECHANICAL SHOCK (机械冲击)	Half sine wave, 1000 G 半正弦波, 加速度1000G 3 Times for all 3 directions X、Y、Z 三个相互垂直方向各三次	MIL-STD-202F Method 213B
9	Vibration (机械振动)	Frequency Range: 10Hz~55Hz 频率范围: 10Hz~55Hz Amplitude: 0.75mm 振幅: 0.75mm 2 Hours in each direction, total 6 Hours X、Y、Z 三个相互垂直方向各振动2小时	MIL-STD-883E Method 2007.3
10	Leakage Test (气密性)	Take measurements with a helium Leakage detector 氦质检漏 Leakage Rate ≤ 1×10 ⁻³ Pa cm ³ /s 漏率 ≤ 1×10 ⁻³ Pa cm ³ /s	MIL-STD-883E