

## 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	YT-38
料			号	X308032768KGA2SC
标	称	频	率	32.768KHZ-12.5PF-5PPM
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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

TEL: 0755-28444777 FAX: 0755-28444777-812 WEB: http://www.yxc.hk

产品	规格书/ SPECIFICATION	型号	YT-38		
Ⅰ晶扔	I 晶振电性能 Electrical Characteristics				
1.	标称频率	32.768	KHZ		
	Nominal Frequency				
2.	振动模式	基 波			
	Mode of vibration				
3.	工作温度范围	$-$ <u>20</u> $^{\circ}$ C $\sim$	+ <u>70</u> °C		
	Operating Temperature Range				
4.	保存温度范围	$-40^{\circ}\text{C}\!\sim\!+85$	$^{\circ}\mathbb{C}$		
	Storage Temperature Range				
5.	频率偏差	<u>+ 5 ppm</u>	Max at 25°C		
	Adjustment Tolerance				
6.	温度偏差	<u>± 20 ppm</u>	Max		
	Tolerance over the Temperature Ra	ange			
7.	等效电阻	30KΩ	Max. at 25°C		
	Equivalent Series Resistance				
8.	静电容	<u>≤ 1.8</u> pF	Max		
	Shunt Capacitance				
9.	绝缘电阻	500M $\Omega$ Min.	$/DC100V \pm 15V$		
	Insulation resistance				
10.	老化率	$\pm 3$ ppm Max			
	Aging				
11.	标字				
	Marking				
	YXC32GAC				
12.	引线长度	$10 \pm 0.5$ mm			
	Length of leading				
II-1.	测试条件 Test Condition				
	.负载电容	12.5pF			
	Load Capacitance	r			
2.	激励功率	1 μW			
	Level of Drive				
		50B Crystal Imped	ance Meter		
	quipment	, r			
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----- (签字)

样品确认后,请将此页签字回传我公司。

产品规格书/ SPECIFICATION	型号	YT-38
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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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## 产品规格书/ SPECIFICATION 型号 YT-38

Ⅷ. 可靠性试验项目 Reliability Test Items

### 1. 机械性能试验 Mechanical Performance Tests

1.	17儿17双 1土 月七 1八 3ツ	Mechanical Ferrormance Tests	
试 验	立项 目	试 验 方 法	规格 No.
Test	Item	Test Method	Spec. No
1-1	耐冲击 shock	从 75 厘米高,3 次,自由落在 3 厘米的硬木板上 Orient the sample in any attitude and drop it three times from a height of 75 cm onto a hardwood board with a thickness of 3 cm	A
1-2	耐振性 Vibration	振动频率 $10\sim55$ Hz,振幅 $1.5$ mm 时间 $1.5$ 分钟循环,在 $X$ 、 $Y$ 、 $Z$ 轴方向各 $2$ 小时,总计 $6$ 小时。 Subject the sample to $1.5$ -minute cycles of frequencies of $10$ to $55$ Hz and amplitudes of $1.5$ mm for two hours in each of the $X$ , $Y$ , and $Z$ directions, or $6$ hours in total.	A
1-3	引出端强度 Tensile strength of terminal	每端子加 1.5Kg 负荷,保持 30±5 秒 Apply a 1.5Kg tensile load to each terminal and sustain it for $30\pm5$ seconds.	A. C
1-4	引线弯曲度 Bending strength of terminal	每端子加 0.5Kg 负荷并弯曲成 90°,恢复原状后,再反方向弯曲成 90°。 Apply a 0.5 Kg load to one of the terminals, and after tilting the main unit for 90°, restore to its original attitude. Then, tilt it in an opposite direction for 90°, and restore to its original attitude.	A. C
1-5	可焊性 Solder ability	槽焊法,浸锡温度 $230\pm5$ ℃时间 $5\pm0.5$ 秒,端子浸助焊剂时间 $5\pm0.5$ 秒,浸锡高度 2mm。  Dip terminals in RMA flux for $5\pm0.5$ seconds. Under room temperature. Dip terminals in a $230\pm5$ $^{\circ}$ C solder bath for $5\pm0.5$ seconds. The solder shall leave an undipped terminal length of 2 mm at their base .	D
1-6	耐焊接热 Resistance to Soldering Heat	槽焊法,温度 $260\pm5$ ℃时间 $10\pm0.5$ 秒,锡面离基座高度 $2$ mm 以上。 Dip terminals in a $260\pm5$ $^{\circ}$ C solder bath for $10\pm0.5$ seconds. The solder shall leave an undipped terminal length of 2 mm at their base.	A
1-7	气密性 Leaking Test	用氦质谱仪测试或加压测绝缘电阻 Take measurements with a helium leakage detector, or measure insulation resistance under pressure.	E

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### 产品规格书/SPECIFICATION

型号

**YT-38** 

### Ⅷ. 可靠性试项目 Reliability Test Items

#### 2. 环境测试 Environmental Tests

试 验 项 目		试 验 方 法	规格 No.	
Test Item		Test Method	Spec. No.	
2-1	耐寒性	在-40℃环境中非工作状态放置 500 小时	•	
	Cold	Expose the sample in an inoperative mode to 500 hours in a -40 $^{\circ}\mathrm{C}$	Α	
2-2	耐温性	在+85℃环境中非工作状态放置 500 小时	В	
2-2	Dry heat	Expose the sample in an inoperative mode to 500 hours in a $85^\circ\mathrm{C}$		
	耐湿性 Damp heat	在温度+65℃,湿度 95%环境中非工作状态放置 500 小时		
2-3		Expose the sample in an inoperative mode to 500 hours in a 65	В	
		$^{\circ}\text{C}$ , and 95%RH		
	热冲击	在-40℃保持 30 分钟,100℃保持 30 分钟,循环 5 次。		
2-4	Thermal	Subject the sample to 5 temperature variation cycles at -40 $^{\circ}\mathrm{C}$ for	A	
	shock	30 minutes and $+100^{\circ}$ C for the next 30 minutes in each cycles.		

#### SPECIFICATIONS 规格

规格 No.	规 格		
Spec No.	Specification		
	试验前后,频率变化在±5ppm以内,等效电阻变化在要求范围内。		
A	Any variation between the pre- and post-test frequencies shall remain within $\pm 5$ ppm. The		
	post-test equivalent series resistance shall remain within its specified tolerance range.		
	试验前后,频率变化在±10ppm 以内,等效电阻变化在要求范围内。		
В	Any variation between the pre- and post-test frequencies shall remain within $\pm$ 10ppm.		
	The post-test equivalent series resistance shall remain within its specified tolerance range.		
	试验前后,外观未见明显损伤,气密性末破坏。		
C	After each test, no visible damage shall be manifested, nor shall the hermetic seal break		
	down.		
	上锡量至少在 90%以上.		
D	At least 90% of each dipped area shall be covered by fresh solder		
E $1 \times 10^{-2}$ μ Pa. m <sup>3</sup> /s Max or IR $\geqslant$ 500M $\Omega$			

<sup>※</sup>测试在室温 25±2℃环境中进行,每次试验后,样品必须在 25±2℃环境中恢 复 2 小时以上。

% Measurements shall be taken at  $25\pm2\,^{\circ}\mathrm{C}$  ,and after each test, the sample be exposed to two hours at  $25\pm2\,^{\circ}\mathrm{C}$ 

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