

## STANDARD SPECIFICATION

### 产品规格书

客户 Customer: \_\_\_\_\_

客户料号 Customer P/N NO.: \_\_\_\_\_

产品描述 Product Description: TCXO-3225 25.000MHZ 1.8V-3.3V ±0.5PPM  
H X - C 料号 P/N. NO.: 3T025000VX

#### 客户批准 Customer Approval :

审 核	批 准
Checked	APPROVED

(请批准后回签一份 PLEASE RETURN A COPY WITH APPROVAL)

拟 制 DESIGNER	审 核 CHECK	批 准 APPROVED
万力阳	蔡勤	卞建平

地址: 深圳市龙华区龙胜路融创智汇大厦C座1401-1402室

Office add: Room 1401-1402, Building C, Rongchuang, Longhua District, shenzhen

TEL: 0755-21044642





深圳市华昕电子有限公司  
SHENZHEN HUAXIN ELECTRONICS CO., LTD.



## REVISION RECORD

## Spec Sheet Contents

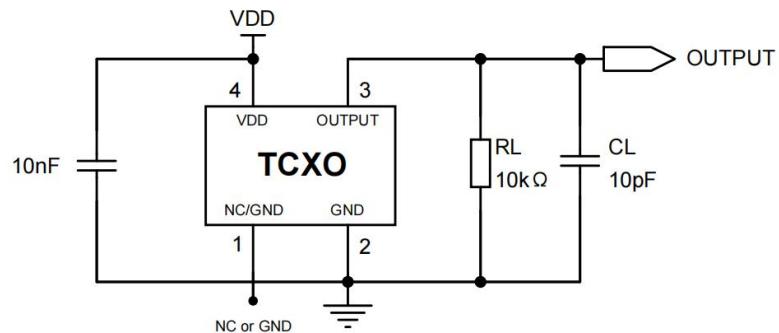
NO.	Content	Page
1	石英晶体参数规格 QUARTZ CRYSTAL UNIT SPECIFICATION	4
2	电路测试 CILCUIT TEST	5
3	包装数量 NUMBER OF PACKAGES	5
4	外形尺寸 BOUNDARY DIMENSION	6
5	印字内容 MARKING	6
6	包装 PACKING	7
7	回流焊温度曲线 REFLOW PROFILES	8
8	可靠性试验 RELIABILITY SPECIFICATIONOND	9

## 1. 石英晶体参数规格 QUARTZ CRYSTAL UNIT SPECIFICATION

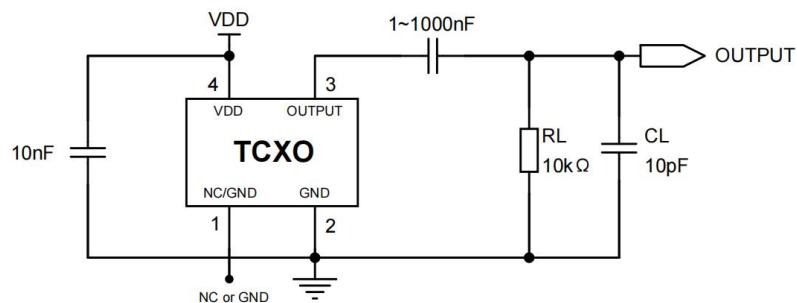
描述 Description : TCXO  
 产品型别 Product Type : 3T  
 测量设备 Measure equipment : S&A 280B  
 电气特性 Electrical Characteristics

NO.	项目 Item	符号 Symbol	电气特性规格 Electrical Specification				备注 Notes
			下限 Min.	中心 Typ.	上限 Max.	单位 Units	
1	标准频率 Nominal Frequency	FL	25.000			MHZ	
2	输出方式 Output mode	-	Clipped Sinewave			-	
3	频率偏差 Frequency Tolerance	FT	-0.5	-	0.5	ppm	
4	温度频率稳定性 Temperature frequency stability	TC	-1.5	-	1.5	ppm	T <sub>A</sub> =25°C, V <sub>cc</sub> =3.3V
5	工作温度 Operating Temperature		-40	-	85	°C	
6	储存温度范围 Storage Temperature	T_stg	-55	-	125	°C	
7	老化率 Aging rate	F_age		±1		ppm	First year
8	供电电压 For the pressure	Vdd	1.8-3.3			V	±5%
9	电流 current	Icc			1.5	mA	
10	启动时间 Start-up time	To's'c			3	ms	More than 90%of final amplitude
11	输出电平 Output Level	-	0.8	-	-	Vp-p	Clipped sine wave(DC-coupled)
11	占空比 Duty ratio	TH/T	40	-	60	%	
12	负载变化 Load Variation	-	-	-	±0.2	ppm	Load R//C=(10kΩ //10pF)±10%
相位噪声 Phase noise		-120dBc/Hz 100Hz offset	-14dBc/Hz 1KHz offset	-150dBc/Hz 10KHz offset	-155dBc/Hz 100KHz offset		

## 2. 电路测试 CILCUIT TEST



DC Coupled Application



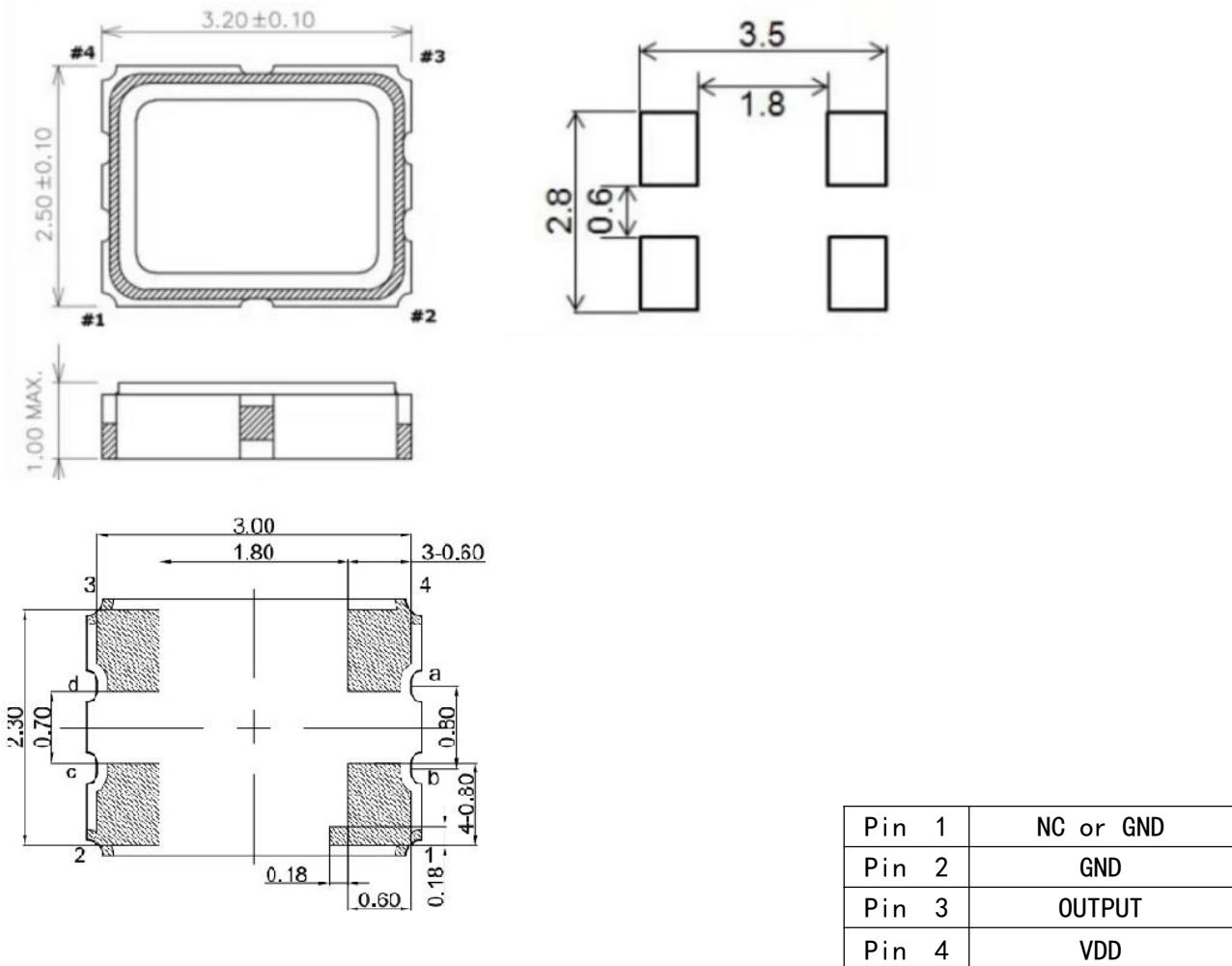
AC Coupled Application

## 3. 包装数量 NUMBER OF PACKAGES

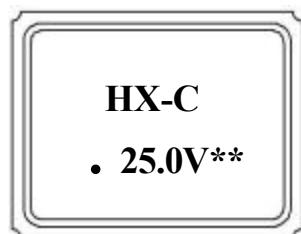
类型 TYPE	尺寸 SIZE	数量 NUMBER
包装盒 Packaging	180*20*180	3000pcs
包装箱 Packing cases	240*200*200	30000pcs

#### 4. 外形尺寸 BOUNDARY DIMENSION

( 单位: mm )



#### 5. 印字

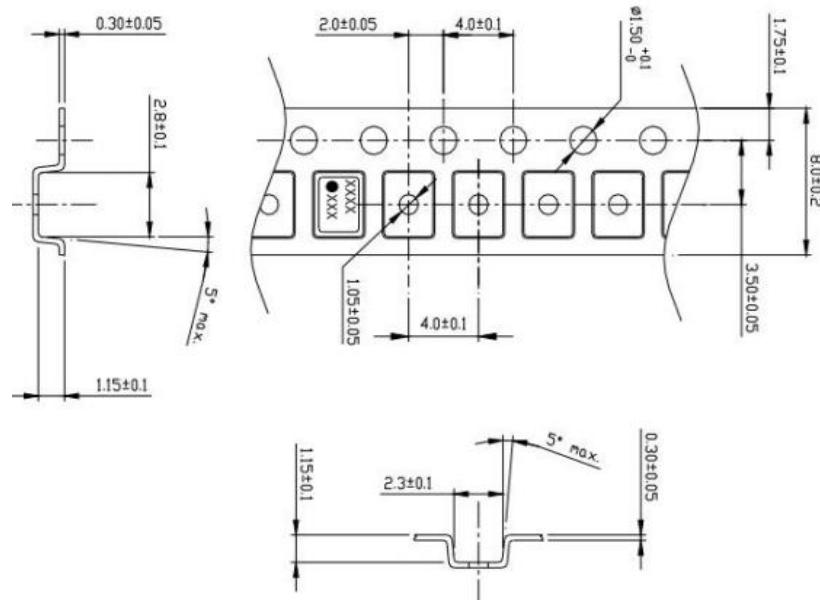


HX-C ----- LOGO  
 25.0 ----- 频率  
 V ----- 电压  
 \* ----- 周期  
 . ----- Pin1

## 6. 编带包装 BRAID PACKAGING

(单位: mm)

### 1. 载带与编带盘尺寸

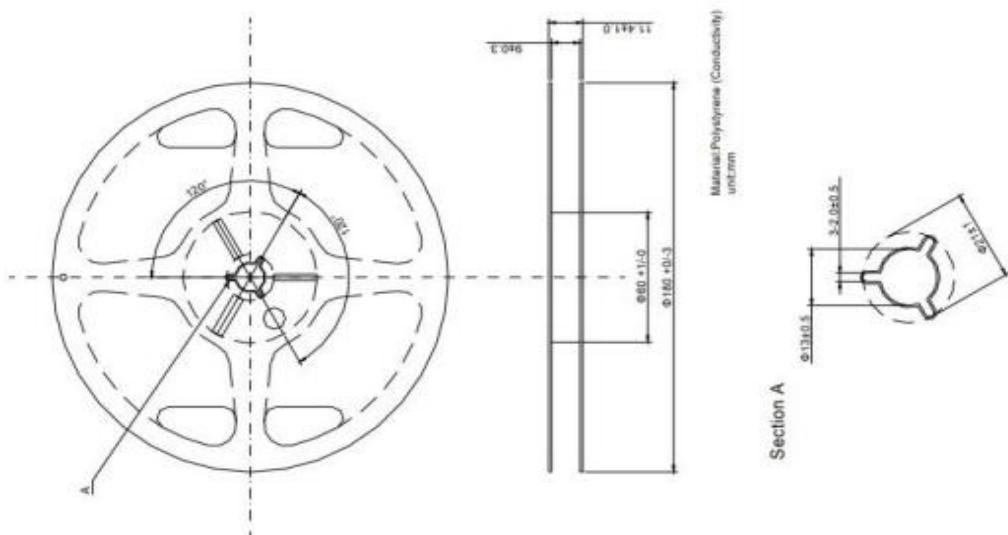


1. Clearance of an embossing tape, and a product unit: mm

Direction	Pocket size	TCXO size	Clearance
L	2.8±0.1	2.5±0.15	0.3±0.25
W	2.3±0.1	2.0±0.15	0.3±0.25
H	1.15±0.1	0.9 max.	0.25 min.

2. Quality : Polystyrene (Conductivity)

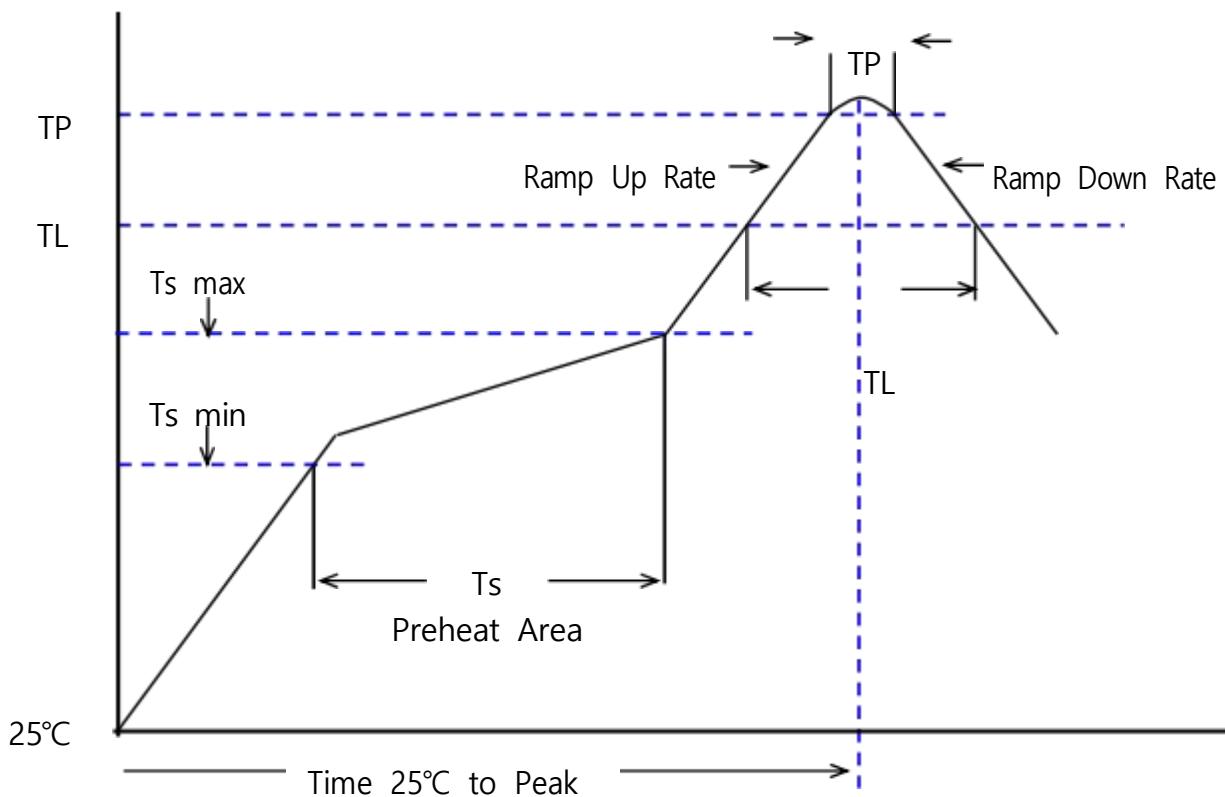
3. Tensile strength of an embossing tape : more than 14N



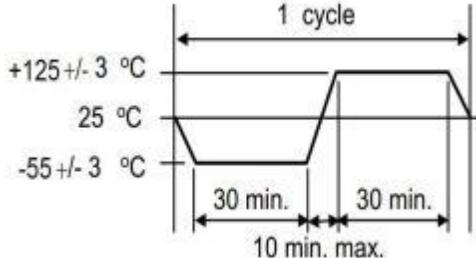
## 7. 回流焊温度曲线 REFLOW PROFILES

参考标准 REFER : JEDEC J-STD-020D

Profiles Feature	Pb-Free Assembly
Preheat/Soak	
Temperature Min (Ts min)	150°C
Temperature Max (Ts max)	200°C
Time (Ts) from (Ts min to Ts max)	60-120 seconds
Ramp-up rate (TL to TP)	3°C/second max.
Liquidous temperature (TL)	217°C
Time (TL) maintained above TL	60-150 seconds
Peak/Classification Temperature (TP)	260±5°C
Time within 5°C of actual Peak Temperature (TP)	20~40 seconds
Ramp-down rate (TP to TL)	6°C/second max.
Time 25 °C to peak temperature	8 minutes max.
Suggest reflow times	3 Times max



## 8. 可靠性试验 RELIABILITY SPECIFICATION

参考标准REFER		JIS C 6701	
NO.	项目ITEM	测试条件CONDITIONS	判定标准Criteria
1	跌落 FREE FALL	从150cm位置高度,自由跌落在木板上,连续3次. FREE DROPPING FROM 150 cm HEIGHT 3 TIMES ON A HARD	
2	振动 VIBRATION	振动频率： 10~2000 Hz , 振幅： 1.52mm , 时间： 每个方位三面(X、Y、Z)各振动2小时 FREQUENCY : 10~2000Hz; AMPLITUDE (TOTAL EXCURSION) : 1.5mm SWEEP TIME : 2-3MIN, 3 DIRECTION(X, Y, Z) EACH FOR 2 Hrs.	
3	温度循环 TEMPERATURE CYCLE	晶体放入试验箱中，高、低温循环10次 THE CRYSTAL UNIT SHALL BE SUBJECTED TO 10 SUCCESSIVE CHANGE OF TEMPERATURE CYCLE  	电器性能 满足规格要求 THE ELECTRICAL PERFORMANCE MEET THE SPECIFIC ATIONN
4	冲击 IMOACT	半正弦波冲击(1000G)：持续时间: 0.5ms , X,Y,Z三轴各三次时间：2 小时 HELIUM BOMBING: 3 TIME	
5	可焊性 SOLDERABILITY	温度： 245±5°C , 浸锡时间： 3±0.5 秒 THE LEAD IS IMMERSED IN A 245±5°C SOLDER BATH WITHIN 3±0.5 SECONDS.	
6	稳态湿热 HIGH TEMP. & HUMIDITY	温度： 85 ±3°C , 湿度： 85 % , 保持时间： 500个小时 STORED AT 85 ±3°C AND HUMIDITY 85 % FOR 500±12H.	
7	高温存储 HIGH TEMPERATURE STORAGE	高温温度： 125±2°C , 时间： 500±12 个小时 STORED AT 125±2°C FOR 500±12H. 如果客户的温度要求是高于标准,则必须根据客户的要求测试 If Customer's temperature request is higher than the standard, Temperature test must be done for customer requirements	
8	低温存储 LOW TEMPERATURE STORAGE	低温温度： -40±2°C , 时间： 500±12 个小时 STORED AT -40±2°C FOR 500±12H. 如果客户的温度要求是低于标准,则必须根据客户的要求测试 If Customer's temperature request is lower than the standard, Temperature test must be done for customer requirements	