



ZHEJIANG A-CRYSTAL

ELECTRONIC TECHNOLOGY CO., LTD.



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Rev.	1.0
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## CRYSTAL UNIT SPECIFICATIONS

客户批准 Customer Approval

(请批准后回签一份 Please Return A Copy With Approval)

Customer	
Customer P/N	
Product	CRYSTAL OSCILLATOR
Spec	POSC2520/32.768K~125.000M
A-Crystal P/N	AO2 Series

Drawn	Checked	Approved
<i>caogaobang</i>	<i>tanglong</i>	<i>huanqweilong</i>



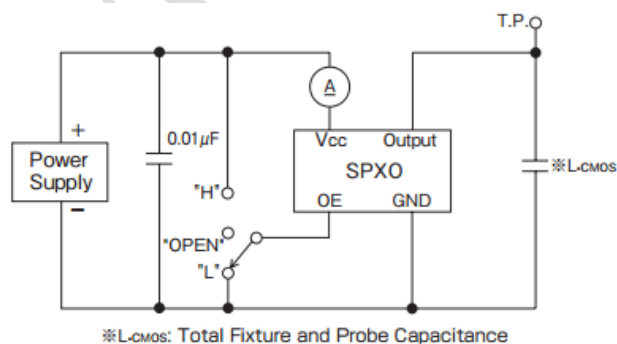
## 1. ELECTRICAL SPECIFICATIONS

### 1.1 Hold Type: POSC2520

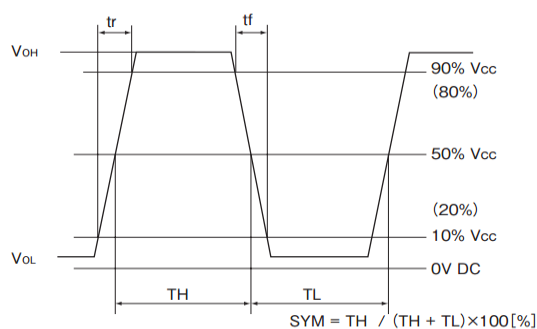
No.	Item	Symb.	Electrical Specification				Remark	
			Min.	Type	Max.	Units		
1	Nominal Frequency	F <sub>0</sub>	32.768K		125.000	MHz		
2	Frequency Stability		-20 -100		+20 +100	ppm	All condition*	
3	Operating Temperature Range	T <sub>OPR</sub>	0 -40		+60 +85	°C		
4	Storage Temperature	T <sub>STG</sub>	-55		+125	°C		
5	Power supply Voltage	V <sub>DD</sub>	1.8		5.5	V		
6	Aging Per Year	F <sub>a</sub>	-3		+3	ppm	First Year	
7	Supply current	I <sub>c</sub>			15	mA		
8	Output symmetry	Sym	40	50	60	%		
9	Rise time	T <sub>r</sub>			5	ns	10%~90%V <sub>DD</sub>	
10	Fall time	T <sub>f</sub>			5	ns	90%~10%V <sub>DD</sub>	
11	Output voltage	V <sub>OH</sub>	90%			V <sub>DD</sub>		
		V <sub>OL</sub>			10%	V <sub>DD</sub>		
12	Output load HCMOS LOAD				15	PF		
13	Start-up Time				5	mS		
14	Pin 1, tri-state function	pin 1=H or open.....output active at pin 3 pin 1=L.....high impedance at pin 3						
15	Package type	2.5*2.0*0.8						

All condition\*: Include 25deg C tolerance, operating temperature range , input voltage change, aging, load change, shock and vibration.

### 1.2 CMOS Test Circuit



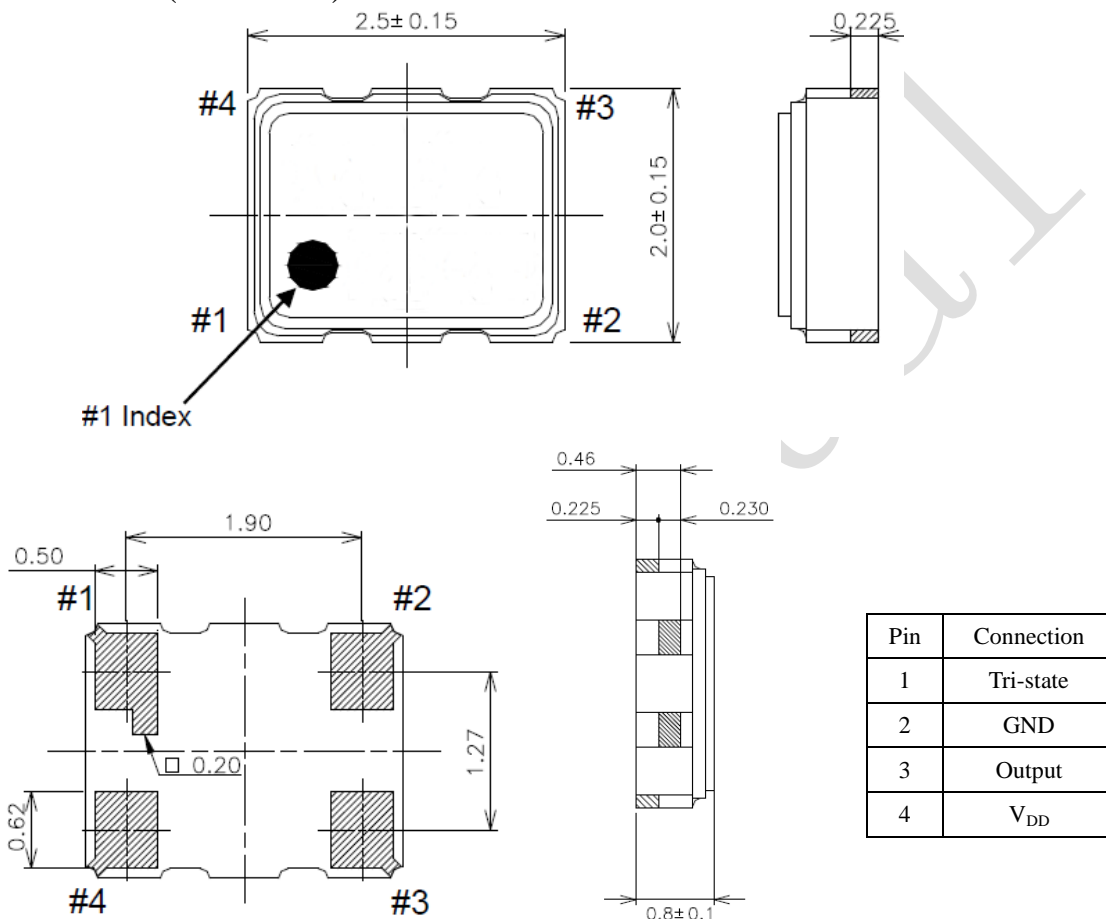
### 1.3 Cmos Output Waveform





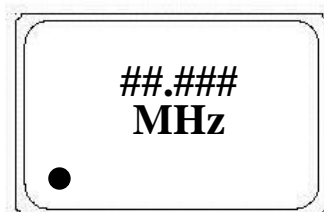
## 2. PRODUCT SIZE

### 2.1 Dimension (Unit: mm)



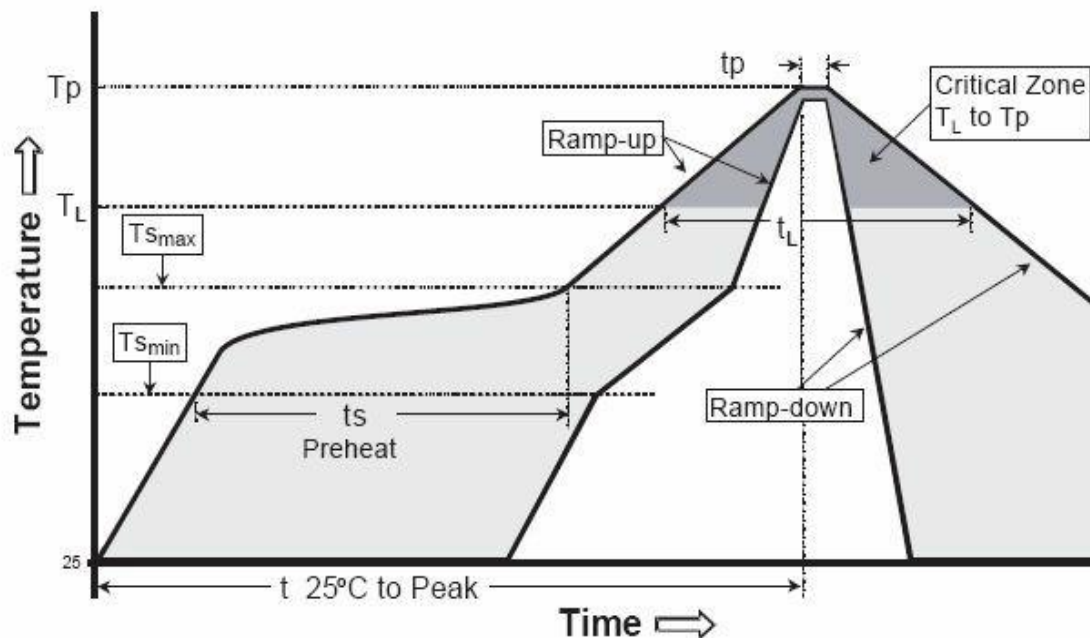
Note: 0.01uF bypass capacitor should be placed between VDD (pin 4) and GND (pin 20) to minimize power supply line noise.

### 2.2 Marking





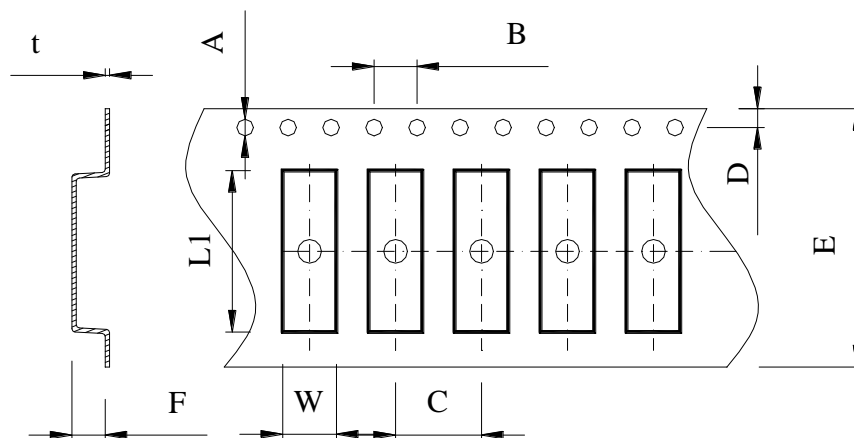
### 3. REFLOW PROFILES



$T_s = 200^\circ\text{C}/60 \sim 180\text{sec}$ ,  $T_L = 217^\circ\text{C}/60 \sim 150\text{sec}$ ,  $T_p = 260^\circ\text{C}/20 \sim 40\text{sec}$

### 4. PACKING

#### 4.1 Packing Method Sketch Map (Unit: mm)



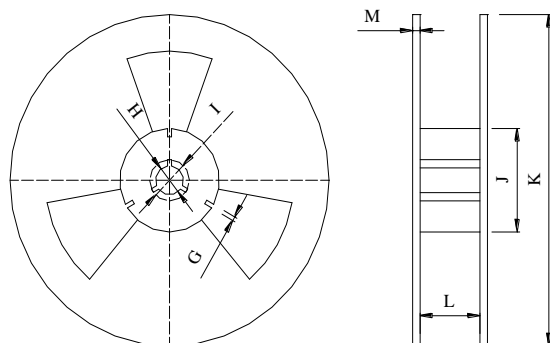
A	B	C	D	E	F	L1	W	t
1.50±0.1	4.0±0.1	4.0±0.1	1.75±0.1	8.0±0.2	1.15±0.1	2.7±0.1	2.25±0.1	0.25±0.05



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### 4.2 Reel Dimensions (Unit: mm)



G	H	I	J	K	L	M
2.0 ±0.5	13.0 ±0.5	21.0±0.5	φ60 +1/-0	φ180 +0/-3	9.0 ±0.3	1.2 ±0.3

\*3000pcs/Reel

## 5. Products Code

### 5.1 SMD CRYSTAL OSCILLATORS

公司代码 浙江一晶	产品型号 (2位)	工作频率 (全频点位数)	负载电容 (1位字母)	调整频差 (1位字母)	温度频差 (1位字母)	工作温度 (1位字母)	其它
A-crystal Logo	Package	Nominal Frequency	Load Capacitance	Frequency Tolerating	Freq Temp Characteristics	Operating Temperature Range	Others
A	O2 (POSC2520)	4M=04000	Y=5.0V	01=5PPM	A=10PPM	1=0~50	Special
		12.000M=12000	A=3.3V	02=10PPM	B=15PPM	2=-10~60	
		32.768K=32768	M=3.0V	03=20PPM	C=20PPM	3=-10~70	
			C=2.5V	04=30PPM	D=25PPM	4=-20~70	
			D=1.8V	05=40PPM	E=30PPM	5=-30~85	
			B=2.8V	06=50PPM	F=50PPM	6=-40~85	
			Y=5.0V	07=100PPM	G=100PPM	7=-40~105	
						8=-40~125	