



Issue	December 21, 2024
Rev.	1.0
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## CRYSTAL UNIT SPECIFICATIONS

<p><b>客户批准 Customer Approval</b></p>          <p>(请批准后回签一份 Please Return A Copy With Approval)</p>
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<b>Customer</b>	
<b>Customer P/N</b>	
<b>Product</b>	<b>CRYSTAL OSCILLATOR</b>
<b>Spec</b>	<b>POSCD14/13.700K~160.000M</b>
<b>A-Crystal P/N</b>	<b>AO9 Series</b>

Drawn	Checked	Approved
<i>Caogaobang</i>	<i>Fengying</i>	<i>Tanqlong</i>



**ZHEJIANG A-CRYSTAL**  
**ELECTRONIC TECHNOLOGY CO., LTD.**



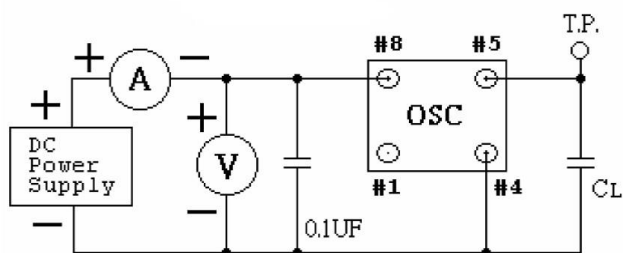
### 1. ELECTRICAL SPECIFICATIONS

#### 1.1 Hold Type: POSCD14

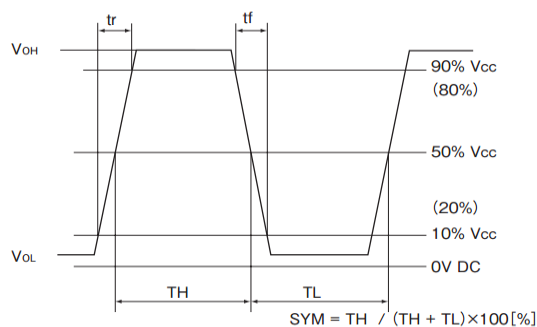
No.	Item	Symb.	Electrical Specification				Remark
			Min.	Type	Max.	Units	
1	Nominal Frequency	F <sub>0</sub>	13.70K	-	160.000	MHz	
2	Frequency Stability		-20 -50	-	+20 +50	ppm	All condition*
3	Operating Temperature Range	TOPR	0 -40	-	+60 +85	°C	
4	Storage Temperature	TSTG	-55	-	+125	°C	
5	Power supply Voltage	V <sub>DD</sub>	1.8	-	5.5	V	
6	Aging Per Year	Fa	-3	-	+3	ppm	First Year
7	Supply current	Ic	15	-	50	mA	
8	Output symmetry	Sym	40	50	60	%	
9	Rise time	Tr	-	-	10	ns	10%~90%V <sub>DD</sub>
10	Fall time	Tf	-	-	10	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		15	-	50	PF	
13	Start-up Time		-	-	10	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	21.2*13.2*5.6					

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

#### 1.2 Test Circuit



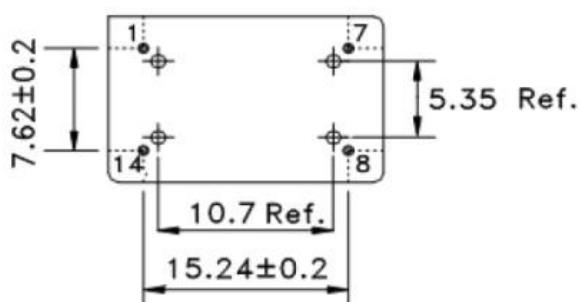
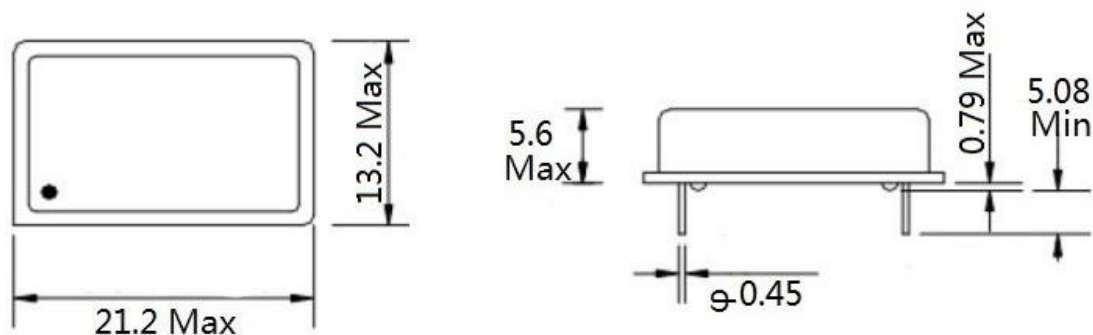
#### 1.3 Output Waveform





## 2. PRODUCT SIZE

### 2.1 Dimension (Unit: mm)



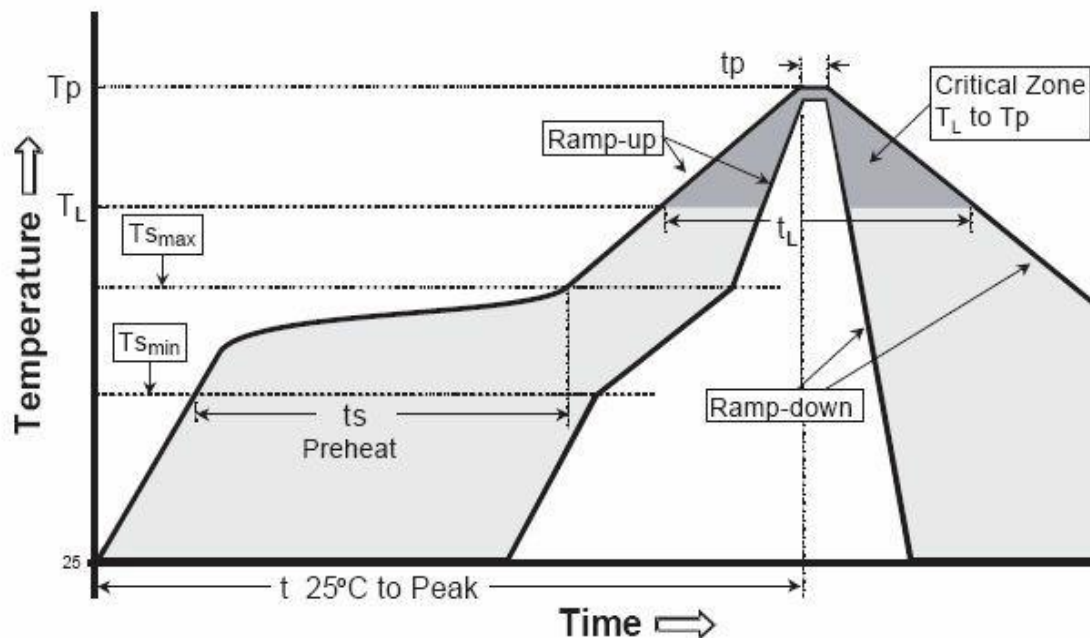
Pin	Connection
1	Enable/NC
2	GND
3	Output
4	V <sub>DD</sub>

### 2.2 Marking





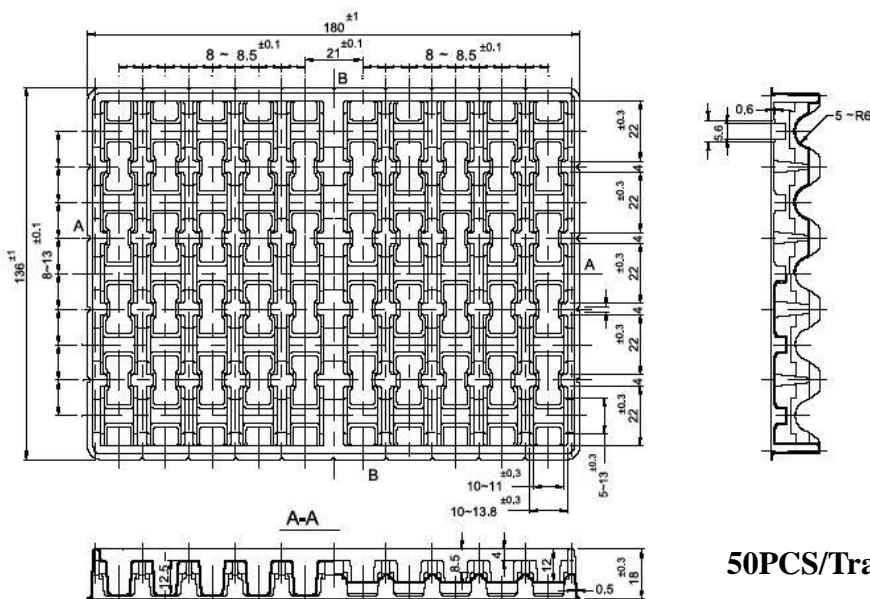
### 3. REFLOW PROFILES



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

### 4. PACKING

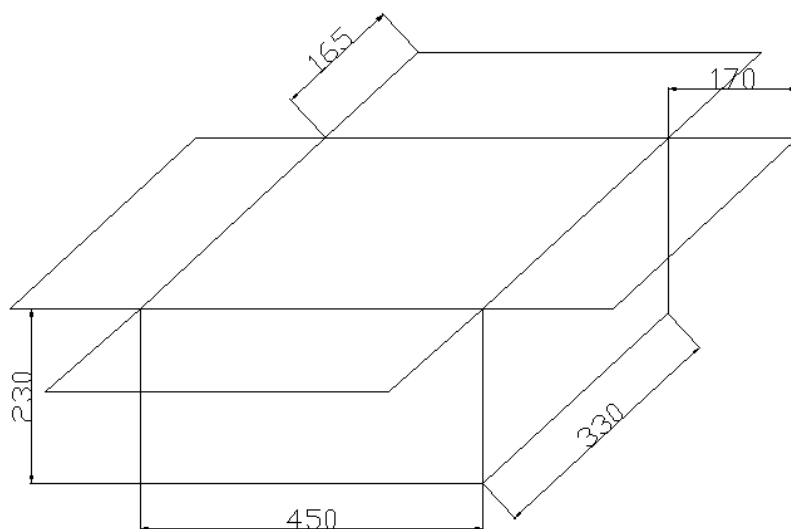
#### 4.1 Section of package (Unit: mm)



50PCS/Tray



4.2 Dimensions and Mark (Unit: mm)



500/PCS is package

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	O9 (POSCD14)	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	