



Issue	December 21, 2024
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**)

<b>Customer</b>	
<b>Customer P/N</b>	
<b>Product</b>	<b>CRYSTAL RESONATORS</b>
<b>Spec</b>	<b>P5FA/7.3728~80.000MHz</b>
<b>A-Crystal P/N</b>	<b>AF5 Series</b>

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



ZHEJIANG A-CRYSTAL

ELECTRONIC TECHNOLOGY CO., LTD.



## 1. ELECTRICAL SPECIFICATIONS

## 1.1 Hold Type: P5FA

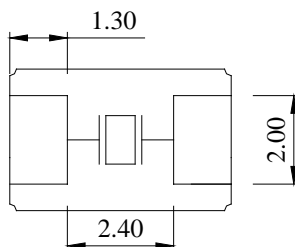
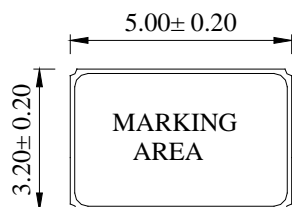
No.	Item	Symb	Electrical Specification				Remark
			Min.	Type	Max.	Units	
1	Nominal Frequency	F0	7.3728		80.00	MHz	
2	Mode of Vibration		■ Fundamental △3rd Overtone △5th Overtone				
3	Frequency Tolerance	$\Delta F/F0$	$\pm 10$	$\pm 30$	$\pm 50$	ppm	at 25°C $\pm 3$ °C
4	Operating Temperature Range	T <sub>OPR</sub>	-20 -40	-	+70 +85	°C	
5	Frequency Stability	T <sub>C</sub>	$\pm 30$		$\pm 50$	ppm	
6	Storage Temperature	T <sub>STG</sub>	-55	-	+125	°C	
7	Load capacitance	CL	6~specify			pF	
8	Equivalent Series Resistance	ESR	Seepage 1			$\Omega$	
9	Drive Level	DL	-	50	100	$\mu W$	
10	Insulation Resistance	IR	500	-	-	M $\Omega$	At 100V <sub>DC</sub>
11	Shunt Capacitance	Co	-	-	7	pF	
12	Aging Per Year	Fa	-5	-	+5	ppm	First Year
13	Package type	5.0*3.2*1.2					

## Seepage1

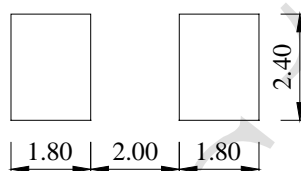
Frequency Range(MHz)	Mode of Vibration	ESR( $\Omega$ ) Max
7.3728<F0<10.000	AT Fundamental	$\leq 120$
10.100<F0<12.000	AT Fundamental	$\leq 100$
12.100<F0<16.000	AT Fundamental	$\leq 80$
16.100 $\leq$ F0<20.000	AT Fundamental	$\leq 70$
20.100 $\leq$ F0<30.000	AT Fundamental	$\leq 60$
30.100 $\leq$ F0<35.000	AT Fundamental	$\leq 50$
35.100 $\leq$ F0<80.000	AT Fundamental	$\leq 40$



1.2 Dimension (Unit: mm)



Recommended Solder Pattern

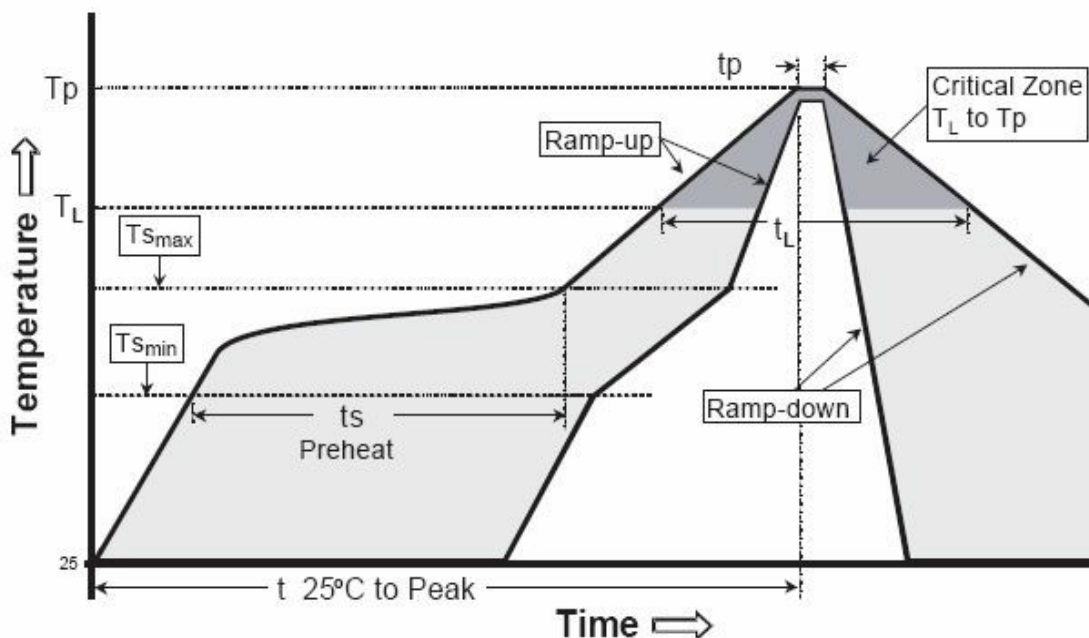


1.3 Marking





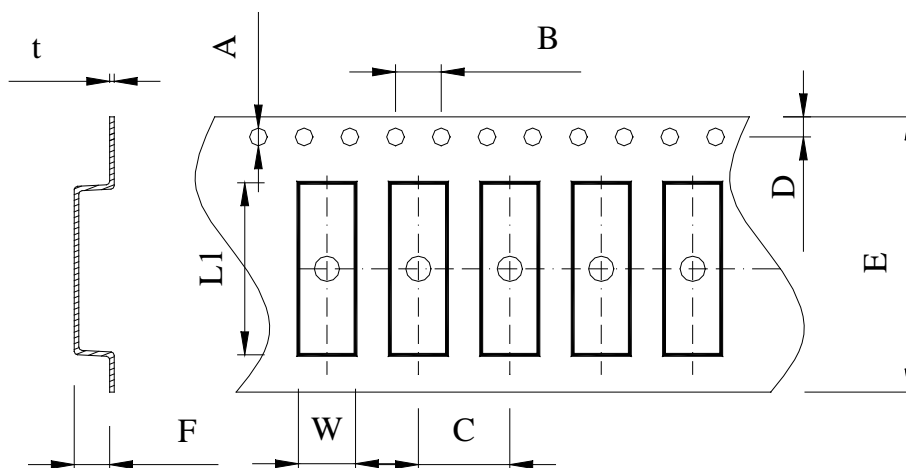
### 1.4 Reflow solder



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

## 2. PACKING

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



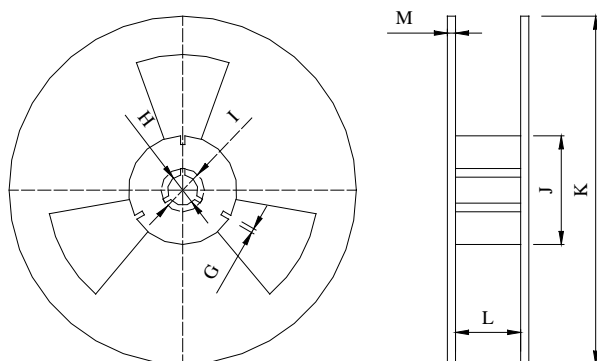
A	B	C	D	E	F	L1	W	t
1.50	4.0	8.0	□.75	16□□	1.3	5.4	3.4	0.3



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## 2.2 Reel Dimensions (Unit: mm)



G	H	I	J	K	L	M
2.5	13.5	21.6	80.0	180	17.5	1.6

Pieces per reel: 3000/reel

## 3. Products Code

### 3.1 SMD Crystal Resonators/MHz

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	F5 (P5FA)	24.000M	无穷大=000	01=5PPM	A=10PPM	1=0~50	Special
		32.000M	9PF=009	02=10PPM	B=15PPM	2=-10~60	
			12PF=012	03=20PPM	C=20PPM	3=-10~70	
			12.5PF=125	04=30PPM	D=25PPM	4=-20~70	
				05=40PPM	E=30PPM	5=-30~85	
				06=50PPM	K=40PPM	6=-40~85	
					F=50PPM	7=-40~105	
					G=100PPM	8=-40~125	