



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)

Customer	
Customer P/N	
Product	CRYSTAL RESONATORS
Spec	P1SB/24.000~60.000MHz
A-Crystal P/N	AP1 Series

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



ZHEJIANG A-CRYSTAL

ELECTRONIC TECHNOLOGY CO., LTD.



1. ELECTRICAL SPECIFICATIONS

1.1 Hold Type: P1SB

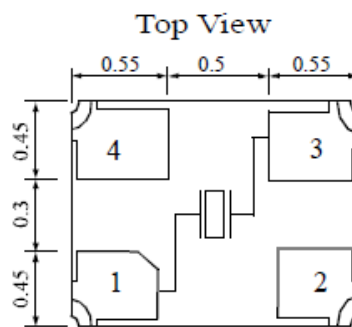
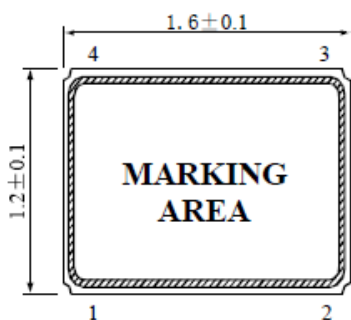
No.	Item	Symb	Electrical Specification				Remark
			Min.	Type	Max.	Units	
1	Nominal Frequency	F0	24.000		60.00	MHz	
2	Mode of Vibration	■ Fundamental △3rd Overtone △5th Overtone					
3	Frequency Tolerance	$\Delta F/F0$	± 10	± 30	± 50	ppm	at 25°C ± 3 °C
4	Operating Temperature Range	T _{OPR}	-20 -40	-	+70 +85	°C	
5	Frequency Stability	T _C	± 30		± 50	ppm	
6	Storage Temperature	T _{STG}	-55	-	+125	°C	
7	Load capacitance	CL	6~specify			pF	
8	Equivalent Series Resistance	ESR	Seepage 1			Ω	
9	Drive Level	DL	-	50	100	μW	
10	Insulation Resistance	IR	500	-	-	M Ω	At 100V _{DC}
11	Shunt Capacitance	Co	-	-	5	pF	
12	Aging Per Year	Fa	-5	-	+5	ppm	First Year
13	Package type	1.6*1.2*0.37					

Seepage1

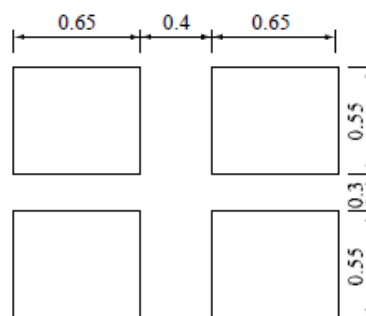
Frequency Range(MHz)	Mode of Vibration	ESR(Ω) Max
24.000 \leq F0<24.999	AT Fundamenta	≤ 150
25.000 \leq F0<35.999	AT Fundamental	≤ 100
36.000 \leq F0<60.000	AT Fundamental	≤ 80



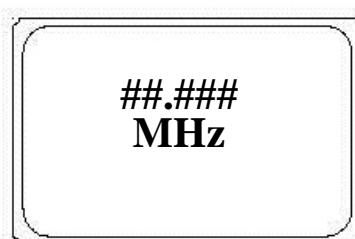
1.2 Dimension (Unit: mm)



Recommended Solder Pattern

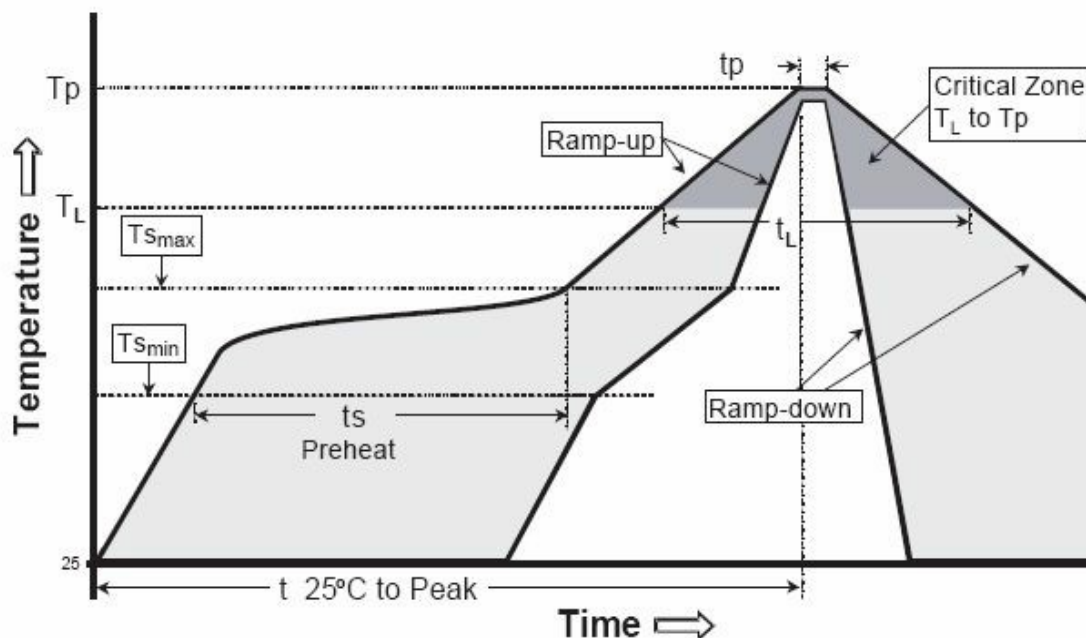


1.3 Marking





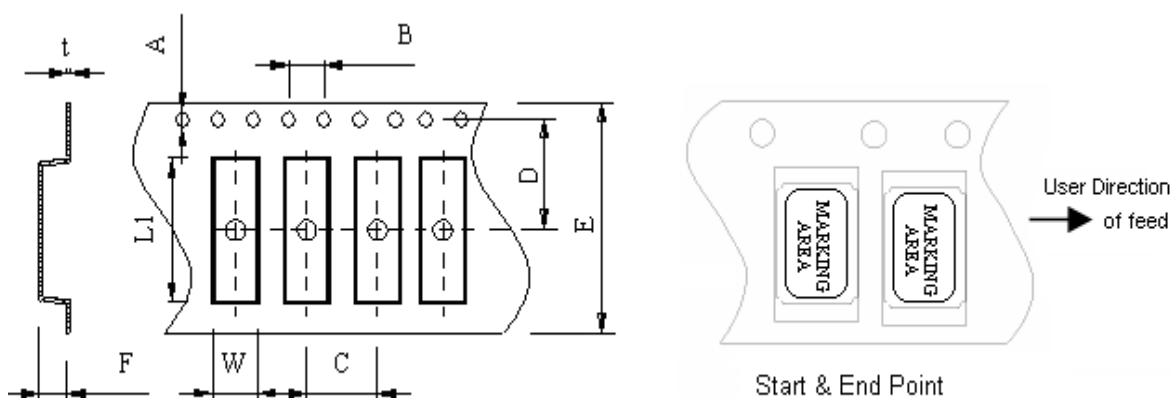
1.4 Reflow solder



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

2. PACKING

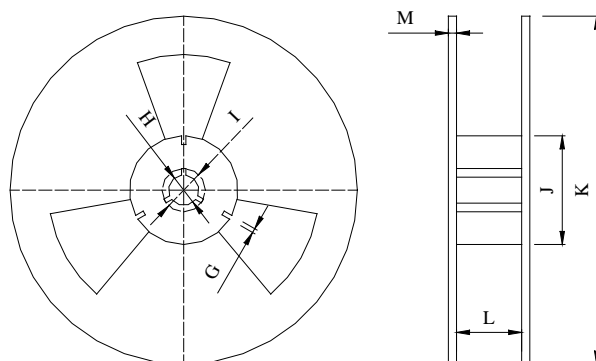
2.1 Packing Method Sketch Map (Unit: mm)



A	B	C	D	E	F	L1	W	t
1.50	4.0	4.0	3.5	8.0	0.6	1.8	1.4	0.2



2.2 Reel Dimensions (Unit: mm)



G	H	I	J	K	L	M
2.5	13.5	21.6	60.0	180	9.5	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	P1 (P1SB)	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	
				07=100PPM	F=50PPM	7=-40~105	
				08=200PPM		8=-40~125	
				0A=15PPM			
				0B=25PPM			