



Issue	January 6, 2025
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	<b>CRYSTAL RESONATORS</b>
Spec	<b>HC-49SMD-3P/3.072~100.000M</b>
A-Crystal P/N	<b>AHM Series</b>

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



## 1. ELECTRICAL SPECIFICATIONS

### 1.1 Hold Type: HC-49SMD-3P

No.	Item	Symb	Electrical Specification				Remark
			Min.	Type	Max.	Units	
1	Nominal Frequency	F0	3.072		100.00	MHz	
2	Mode of Vibration	Fundamental $\triangle$ 3rd Overtone $\triangle$ 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>	-40	-	+85	°C	
7	Load capacitance	CL	6~specify			pF	
8	Equivalent Series Resistance	ESR	Seepage 1			$\Omega$	
9	Drive Level	DL	-	-	100	$\mu$ W	
10	Insulation Resistance	IR	500	-	-	M $\Omega$	At 100V <sub>DC</sub>
11	Shunt Capacitance	C <sub>0</sub>	-	-	7	pF	
12	Aging Per Year	F <sub>a</sub>	-5	-	+5	ppm	First Year
13	Package type	11.4*4.7*3.9					

#### Seepage1

Frequency Range	Mode of Vibration	ESR ( $\Omega$ ) Max
3. 000MHz $\leq$ F0<4. 000MHz	Fund	<200
4. 100MHz $\leq$ F0 < 6.000MHz	Fund	<100
6. 100MHz $\leq$ F0<8. 000MHz	Fund	<50
8. 100MHz $\leq$ F0<16. 000MHz	Fund	<40
16. 10MHz $\leq$ F0<48. 000MHz	Fund	<30
24. 100MHz $\leq$ F0<40. 000MHz	3rd OT	<100
40. 100MHz $\leq$ F0<80. 000MHz	3rd OT	<50
50. 000MHz $\leq$ F0 $\leq$ 100. 000MHz	5th OT	<100

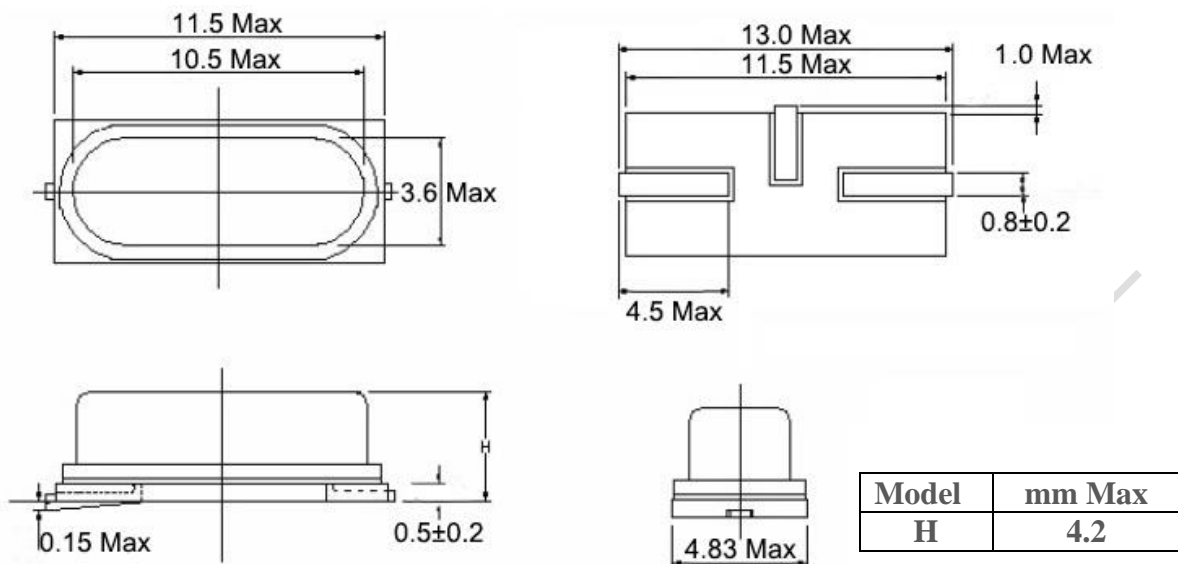


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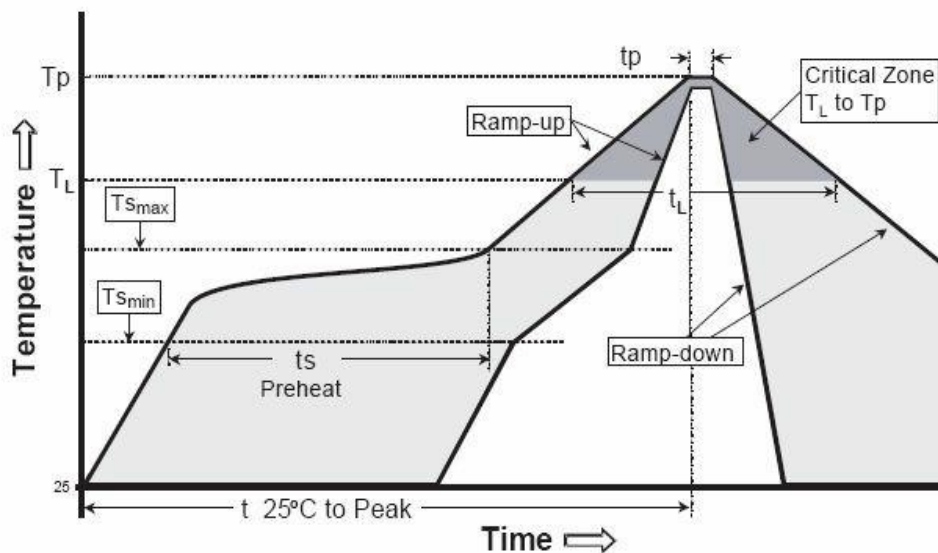
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1.2 Dimension (Unit: mm)



1.3 The soldering requirements

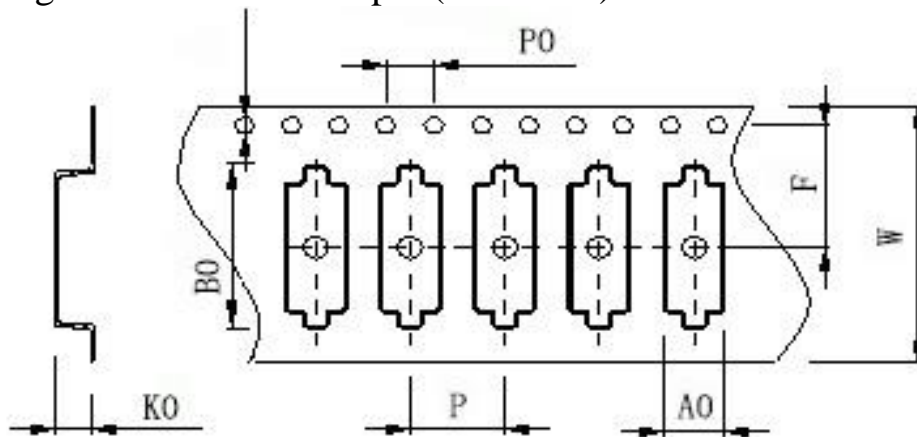


$T_s = 180^\circ\text{C} / 70 \sim 100\text{sec}$ ,  $T_L = 240^\circ\text{C} / 20 \sim 50\text{sec}$ ,  $T_p = 250^\circ\text{C} / 7 \sim 8\text{sec}$



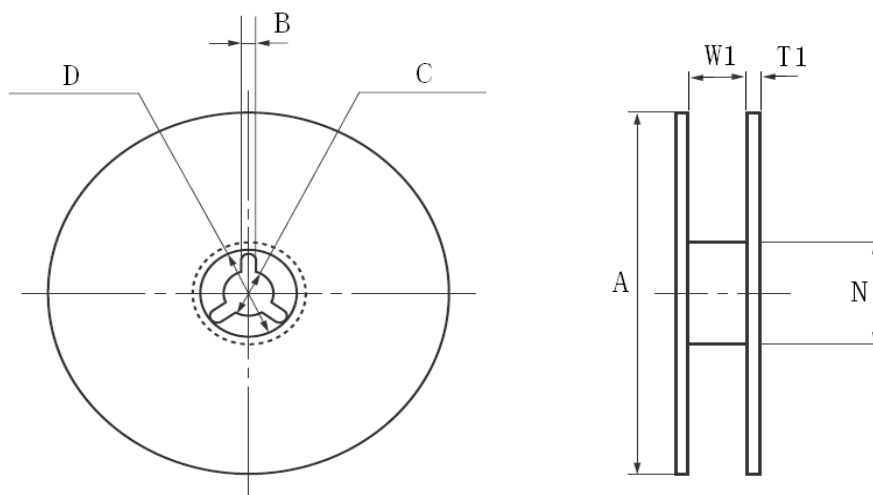
## 2. Packing

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



W	F	P	PO	AO	BO	KO
24.00±0.30	11.5±0.10	12.00±0.10	4.00±0.10	5.00±0.10	15.0±0.10	4.25±0.10

### 2.2 Reel Dimensions (Unit: mm)



Pieces per reel: 1000/reel

A	B	C	D	N	W1	T1
φ 330±0.20	2.50±0.50	φ 13.5±0.50	φ 21.0±1.00	φ 99.0±1.00	24.5±1.00	2.3±0.50



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### 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	HM (HC-49SMD-3P)	8.000M	A = 12.5PF	01=5PPM	A=10PPM	1=0~50	Special
		12.000M	B = 10PF	02=10PPM	B=15PPM	2=-10~60	
			C = 9PF	03=20PPM	C=20PPM	3=-10~70	
			D = 8PF	04=30PPM	D=25PPM	4=-20~70	
			E = 7PF	05=40PPM	E=30PPM	5=-30~85	
			F = 6PF	06=50PPM	F=50PPM	6=-40~85	
			G = 16PF	07=100PPM	G=100PPM	7=-40~105	
			H = 18PF			8=-40~125	
			J = 20PF				
			K = 22PF				
			L = 30PF				