



ZHEJIANG A-CRYSTAL
ELECTRONIC TECHNOLOGY CO., LTD.



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Rev.	1.0
Page	9

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	PMX145/32.768KHz
A-Crystal P/N	AM1 Series

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



1. ELECTRICAL SPECIFICATIONS

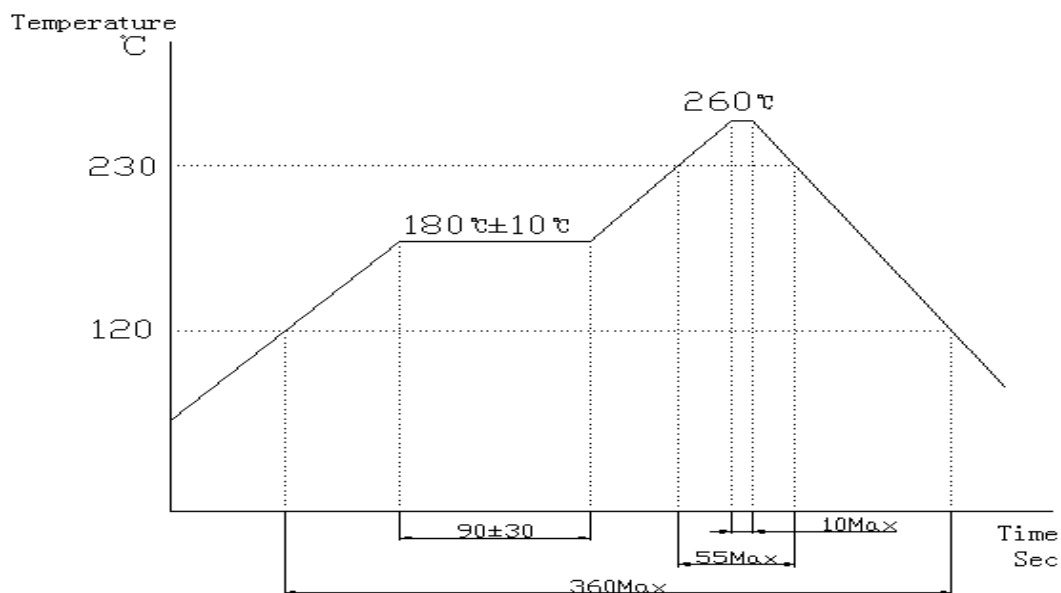
1.1 Hold Type: PMX-145

Parameter	Symb	Electrical Specification				Condition
		Min	Type	Max	Units	
Frequency Range	F_0		32.768		KHz	
Frequency Tolerance	$\Delta f/f_0$	± 5	± 20	± 100	PPM	REF TO 25°C
Temperature Coefficient	K	-0.034 \pm 0.006			ppm/(°C) ²	
Turnover Temperature	T_{TO}	20	25	30	°C	
Operating Temperature Range	T_{OP}	-40		+85	°C	
Storage Temperature Range	T_{ST}	-55		125	°C	
Quality Factor	Q	60,000			Typ	
Series Resistance	R_1		65		K Ω	REF TO 25°C
Shunt Capacitance	C_0	0.9	1.8	2.0	Typ	0.9~2.0PF
Motional Capacitance	C_1		3.4		Ff TYP	
Load Capacitance	C_L	6	12.5	30	PF	
Insulator Resistance	IR	500			M Ω	DC100V \pm 15V
Drive Level	DL			1.0	μ W	
Capacitance ratio	R		450		TYP	
Aging Rate	Δ/f	± 3		± 5	PPM	at 25°C \pm 3°C
Moist are Sensitivity Level	MSL		1			J-STD-033
Package type	7.0*1.5*1.4					

注：ROHS 豁免 ROHS exemption, 高温高铅 high lead and high temperature;

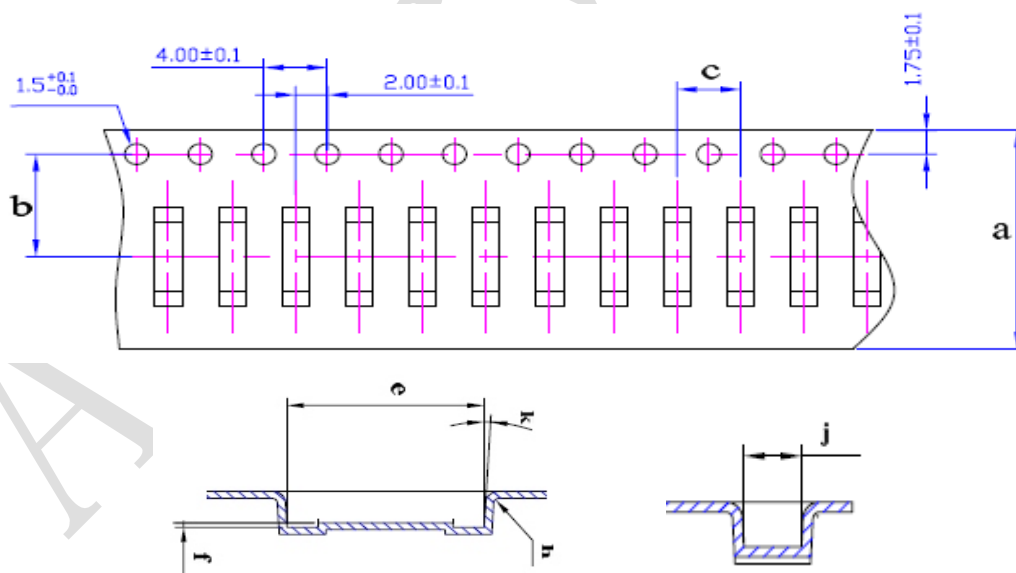


1.4 Reflow solder



2. Packing

2.1 Packing Method Sketch Map (Unit: mm)



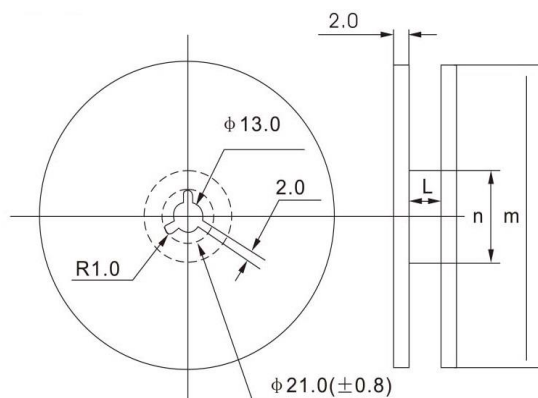
Quantity Pcs/reel	a	b	c	e	f	h	j	k
3k/reel & 9k/reel	16.0	7.5	4.0	7.2	0.15	0.5	1.65	3



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2.2 Reel Dimensions (Unit: mm)



Pieces per reel	ϕ m	ϕ n	L	Carrier tape size
3000/reel	180 ± 3	60min	17.5	16
9000/reel	330 ± 3	80min	17.5	16

3. Products Code

3.1 SMD Crystal Resonators/KHz

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	M1 (PMX145)	32.768K	A = 12.5PF	A=10PPM	T = 温度系数	A = 0~50	Special
			B = 10PF	B=20PPM		B = -10~60	
			C = 9PF	C=30PPM		C = -10~70	
			D = 8PF	D=50PPM		D = -20~70	
			E = 7PF			E = -30~85	
			F = 6PF			F = -40~85	
			G = 16PF			G = -40~105	
			H = 18PF			H = -40~125	
			J = 20PF				
			K = 22PF				
			L = 30PF				