



浙江汇隆晶片技术有限公司
Zhejiang Huilong Crystals Technology Co.,Ltd

SPECIFICATION FOR APPROVAL

CUSTOMER _____

NOMINAL FREQUENCY 12.000000 MHz _____

HOLDER TYPE HC-49US _____

SPEC. NO. (P/N) HA12000A001 _____

CUSTOMER P/N _____

ISSUE DATE Dec.21,2022 _____

APPROVED	PREPARED	QA
彭达梅	金文波	訾红华
APPROVED BY CUSTOMER:		AVL Status
Please return one copy with approval to HLC		

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RoHS Compliant (Pb- Free)



TYPE HA SEAM SEALED X'TAL

ELECTRICAL SPECIFICATIONS

HLC Parts Number : HA12000A001

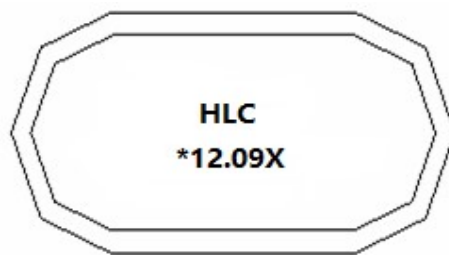
Item	Symbol	Specifications				Notes
		Min	Type	Max	Units	
Nominal frequency	FO	12.000000			MHz	
Mode of Oscillation	OT	Fundamental				
Load Capacitance	CL	20			pF	
Frequency Tolerance	FT	± 20			ppm	at 25°C $\pm 3^\circ\text{C}$
Frequency Stability		± 30			ppm	with working temperature Reference to 25°C frequency
Working temperature range	TR	-40~85			°C	
Drive Level	DL	100			μW	
Series Resonant Resistance RR	CI/RR	40			Ω	Max.
Shunt Capacitance C0	C0	7			pF	Max.
Aging		± 5			ppm/yr.	
Storage temperature range		-40 ~ 125			°C	

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TYPE HA SEAM SEALED X'TAL

MARKING



HLC: HLC Use Code x: CL Code

x: Date Code

CL	Code	CL	Code	CL	Code
0pf	0	7.5pf	H	11.2pf	a
6pf	1	11pf	I	11.4pf	b
8pf	2	8.5pf	J	13.5pf	d
10pf	3	7.1pf	K		
12pf	5	19pf	L		
15pf	6	12.5pf	M		
16pf	7	27pf	N		
18pf	8	7.3pf	O		
20pf	9	13pf	P		
22pf	A	11.5pf	Q		
25pf	B	7pf	R		
28pf	C	14pf	S		
30pf	D	23pf	T		
32pf	E	11.1pf	U		
9.5pf	F	33pf	V		
9pf	G	10.5pf	W		
		9.2pf	Y		
		50pf	Z		

Jan-21	N	Jan-22	A
Feb-21	P	Feb-22	B
Mar-21	Q	Mar-22	C
Apr-21	R	Apr-22	D
May-21	S	May-22	E
Jun-21	T	Jun-22	F
Jul-21	U	Jul-22	G
Aug-21	V	Aug-22	H
Sep-21	W	Sep-22	J
Oct-21	X	Oct-22	K
Nov-21	Y	Nov-22	L
Dec-21	Z	Dec-22	M

备注：年份印字代码原则按奇偶年两年一个循环

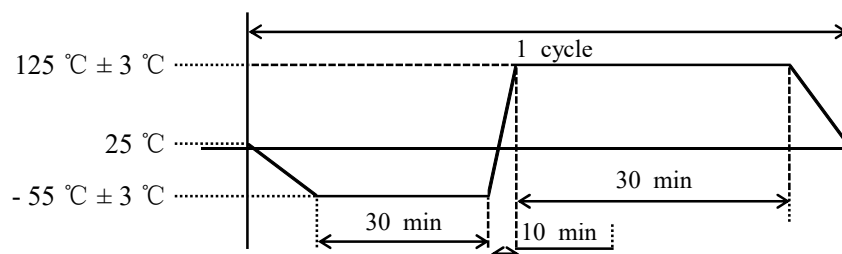
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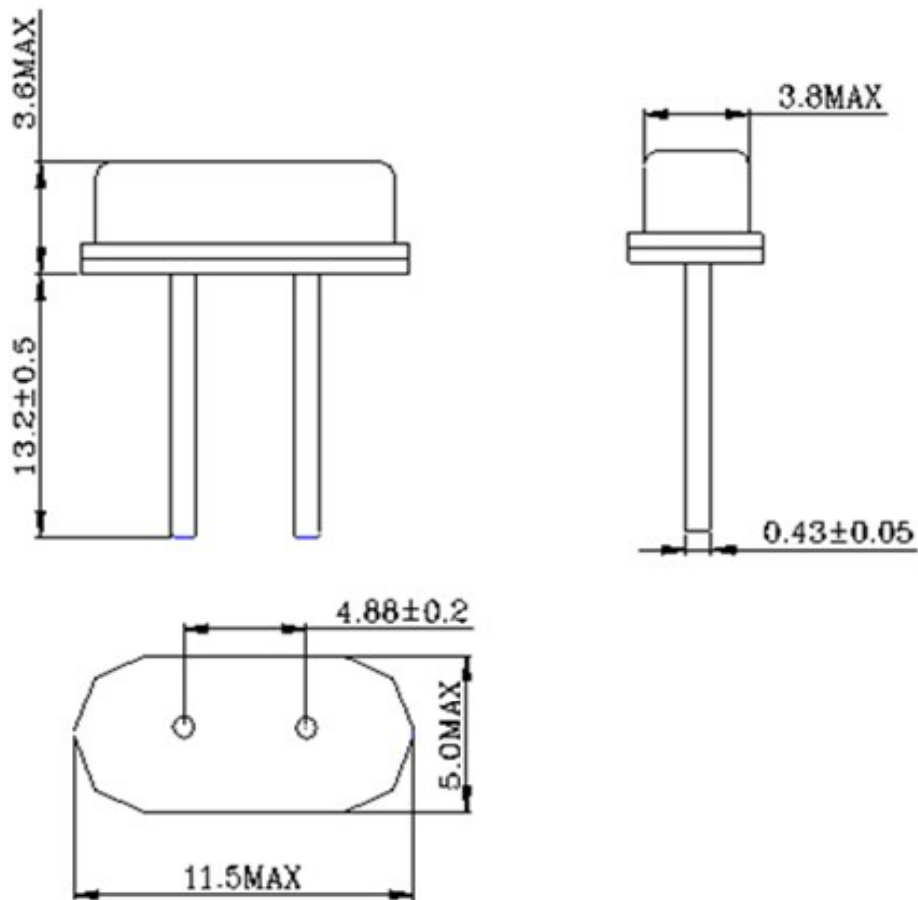
RELIABILITY SPECIFICATIONS

NO.	TEST ITEM	TEST METHODS
1	DROP TEST	Device are dropped from a height of 75 cm onto 3 mm thick wood to perform 3 times of random drops.
2	MECHANICAL SHOCK	Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times.
3	VIBRATION	Frequency range 10 ~ 2000 Hz Amplitude 1.5 mm Sweep Time 20 minute Test Time 2 hours
4	SOLDERABILITY	MIL - STD - 20E Method 208C Temperature 245°C±5°C Material H63A (Silver 2 ~ 3 %) Immersion depth 0.5 mm minimum Immersion time 3 ± 0.5 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)
5	RESISTANCE TO SOLDERING HEAT	MIL - SLD -202, Method 210, Condition I or J 10 sec immersion into 260 ± 5°C solder pot, above 180°C is 90 ~ 120 sec.
6	LOW TEMP. STORAGE	Leave at - 55 °C ± 2°C for 1000 ± 12 hours
7	HIGH TEMP. STORAGE	Leave at 125 °C ± 2°C for 1000 ± 12 hours
8	THERMAL SHOCK	Total 100 cycles of the following temperature cycle

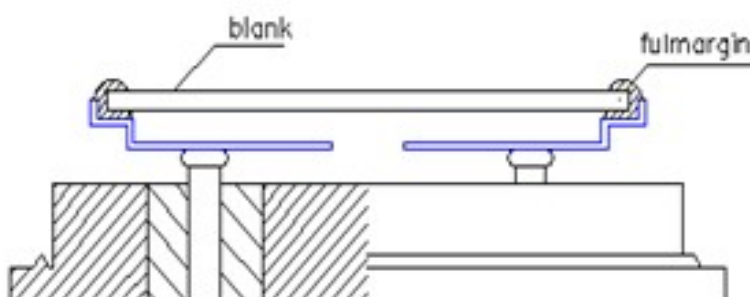


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DIMENSIONS



Inner structure

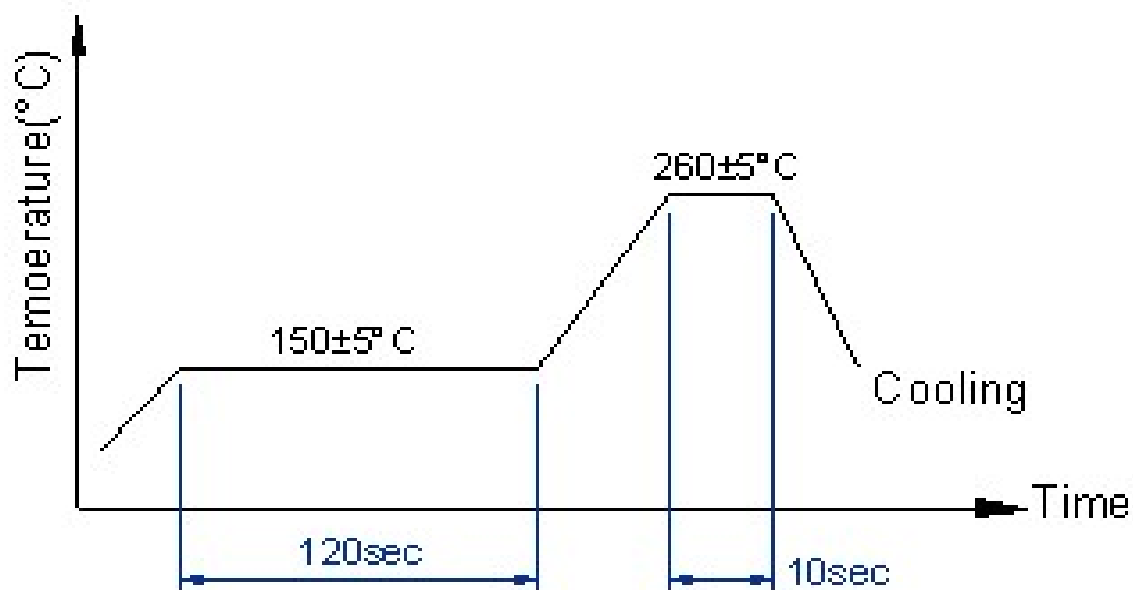


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TYPE HA SEAM SEALED X'TAL

SUGGESTED IR REFLOW PROFILE



Total Time: 200 Sec.Max

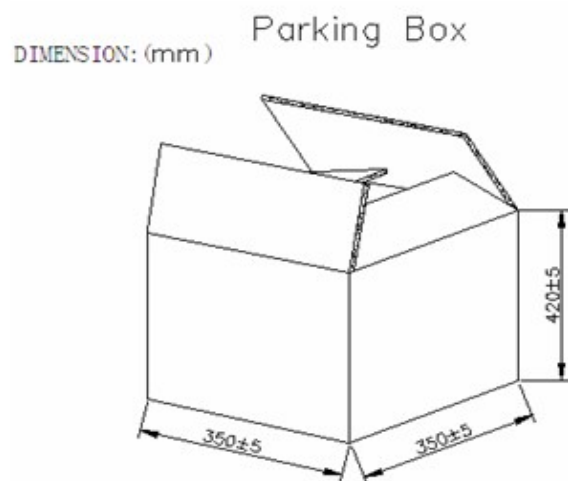
Solder melting point : 185°C

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TYPE HA SEAM SEALED X'TAL

PACKING



Packing quantity: 1000pcs per box and 10 000pcs per container .

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