

浙江汇隆晶片技术有限公司

Zhejiang Huilong Crystals Technology Co.,Ltd

SPECIFICATION FOR APPROVAL

CUSTOMER

NOMINAL FREQUENCY

24.576000 MHz

HOLDER TYPE

HC-49US

SPEC. NO. (P/N)

HA24576A012

CUSTOMER P/N

ISSUE DATE

Nov.27,2025

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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ISO9001
ISO14001



RoHS Compliant (Pb- Free)



TYPE HA SEAM SEALED X'TAL

ELECTRICAL SPECIFICATIONS

HLC Parts Number : HA24576A012

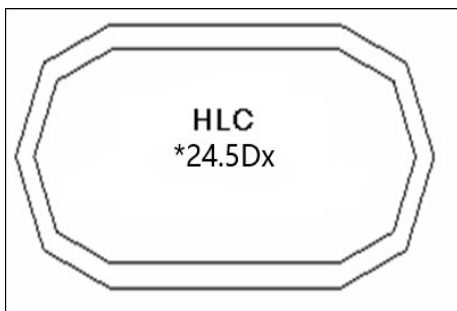
Item	Symbol	Specifications				Notes
		Min	Type	Max	Units	
Nominal frequency	FO	24.576000			MHz	
Mode of Oscillation	OT	Fundamental				
Load Capacitance	CL	30			pF	
Frequency Tolerance	FT	± 30			ppm	at 25°C $\pm 3^\circ\text{C}$
Frequency Stability		± 30			ppm	with working temperature Reference to 25°C frequency
Working temperature range	TR	-20~70			°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

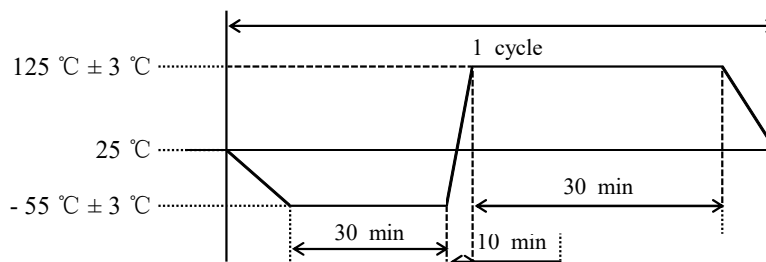
CL	Code	CL	Code	CL	Code
0pf	0	7.5pf	H	11.2pf	a
6pf	1	11pf	I	11.4pf	b
8pf	2	8.5pf	J	13.5pf	d
10pf	3	7.1pf	K		
12pf	5	19pf	L		
15pf	6	12.5pf	M		
16pf	7	27pf	N		
18pf	8	7.3pf	O		
20pf	9	13pf	P		
22pf	A	11.5pf	Q		
25pf	B	7pf	R		
28pf	C	14pf	S		
30pf	D	23pf	T		
32pf	E	11.1pf	U		
9.5pf	F	33pf	V		
9pf	G	10.5pf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

Jan-23	N	Jan-24	A
Feb-23	P	Feb-24	B
Mar-23	Q	Mar-24	C
Apr-23	R	Apr-24	D
May-23	S	May-24	E
Jun-23	T	Jun-24	F
Jul-23	U	Jul-24	G
Aug-23	V	Aug-24	H
Sep-23	W	Sep-24	J
Oct-23	X	Oct-24	K
Nov-23	Y	Nov-24	L
Dec-23	Z	Dec-24	M

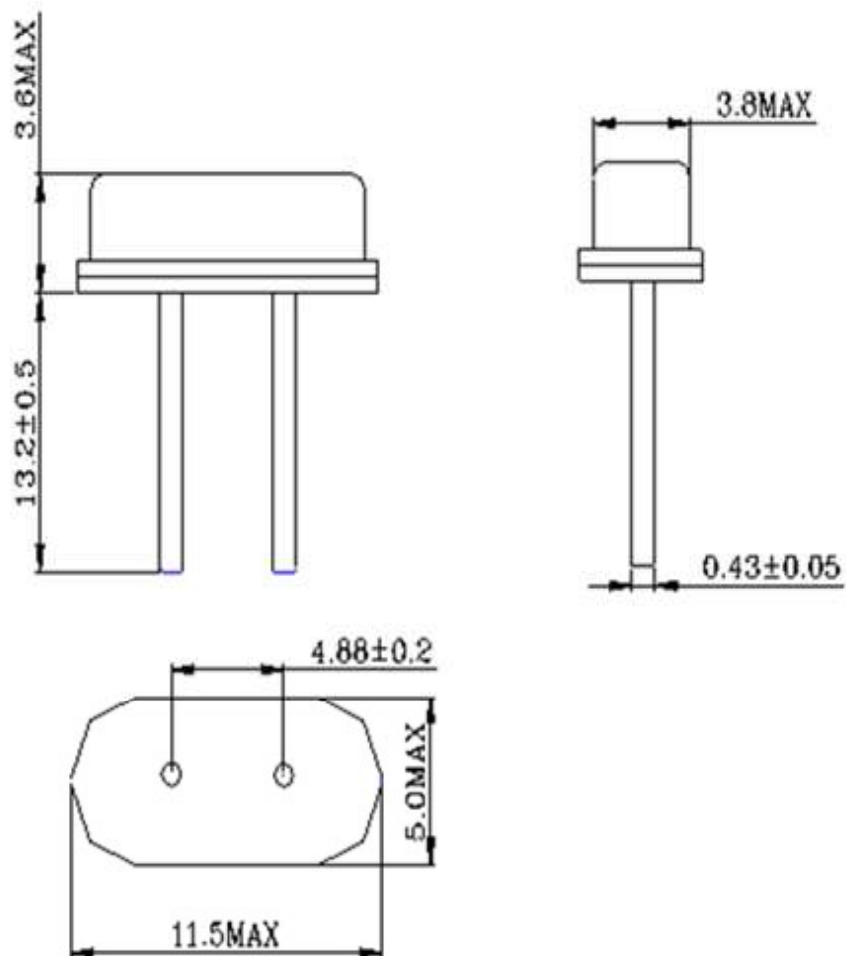
备注：年份印字代码原则按奇偶年两年一个循环

RELIABILITY SPECIFICATIONS

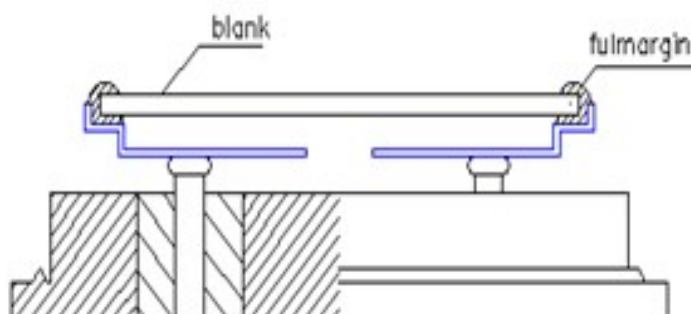
NO.	TEST ITEM	TEST METHODS
1	DROP TEST	Device are dropped from a height of 75 cm onto 3 mm thick wood to perform 3 times of random drops.
2	MECHANICAL SHOCK	Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times.
3	VIBRATION	Frequency range10 ~ 2000 Hz Amplitude1.5 mm Sweep Time20 minute Test Time2 hours
4	SOLDERABILITY	MIL - STD - 20E Method 208C Temperature245°C±5°C MaterialH63A (Silver 2 ~ 3 %) Immersion depth0.5 mm minimum Immersion time3 ± 0.5 seconds FluxRosin 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



DIMENSIONS



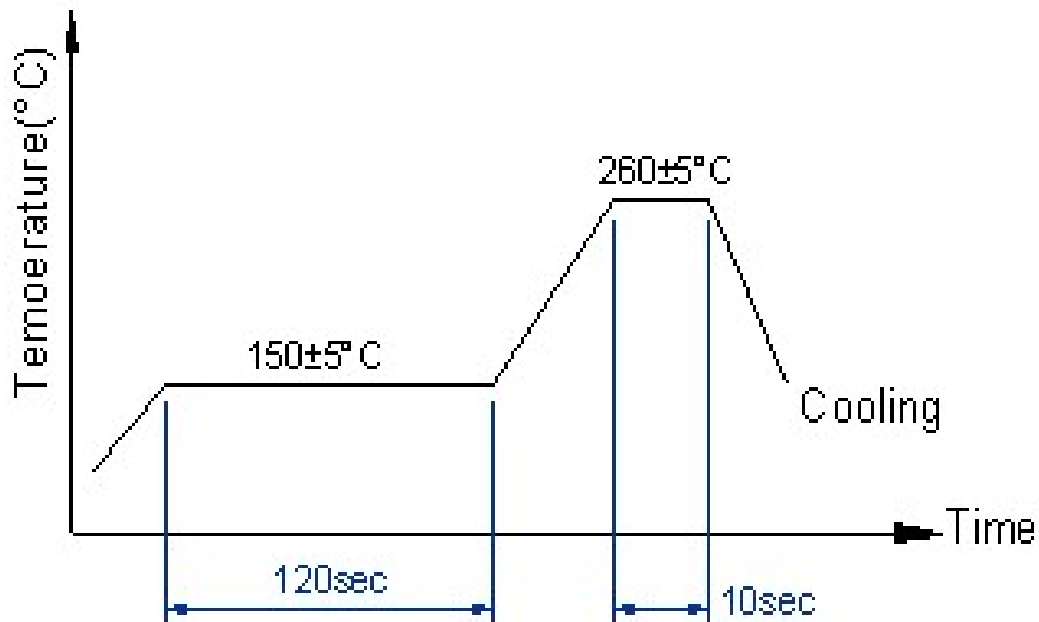
Inner structure





TYPE HA SEAM SEALED X'TAL

SUGGESTED IR REFLOW PROFILE



Total Time : 200 Sec.Max

Solder melting point : 185°C

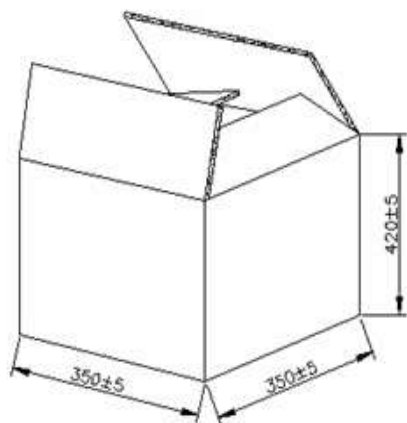


TYPE HA SEAM SEALED X'TAL

PACKING

Packing Box

DIMENSION: (mm)



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