浙 江 汇 隆 晶 片 技 术 有 限 公 司

*Zhejiang Huilong Crystals Technology Co.,Ltd*

# *SPECIFICATION FOR APPROVAL*

| | |
|---|---|
| **CUSTOMER** | |
| **NOMINAL FREQUENCY** | 40.000000 MHz |
| **HOLDER TYPE** | **2520** |
| **SPEC. NO. ( P/N )** | HH40000011 |
| **CUSTOMER P/N** | |
| **ISSUE DATE** | Nov.27,2025 |

| APPROVED | PREPARED | QA |
|---|---|---|
| SMD 2025.11.27 辜批林 | SMD 2025.11.27 张梅娟 | SMD 2025.11.27 韩丽丽 |
| **APPROVED BY CUSTOMER:** | | **AVL Status** |
| **Please return one copy with approval toHLC** | | |

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ISO9001
ISO14001

RoHS Compliant ( Pb- Free )

# TYPE HH SEAM SEALED X'TAL

## ELECTRICAL SPECIFICATIONS

**HLC Parts Number :** **HH40000011**

| Item | Symbol | Specifications | | | | Notes |
|---|---|---|---|---|---|---|
| | | Min | Type | Max | Units | |
| Nominal frequency | FO | | 40.000000 | | MHz | |
| Mode of Oscillation | OT | | Fundamental | | | |
| Load Capacitance | CL | | 9 | | pF | |
| Frequency Tolerance | FT | | ± 10 | | ppm | at 25℃ ± 3℃ |
| Frequency Stability | | | ± 50 | | ppm | with working temperature Reference to 25℃ frequency |
| Working temperature range | TR | | -10~105 | | ℃ | |
| Drive Level | DL | | 100 | | μW | |
| Series Resonant Resistance RR | CI/RR | | 50 | | Ω | |
| Insulation Resistance | IR | | >500 | | MΩ | |
| Shunt Capacitance C0 | C0 | | 3 | | pF | Max. |
| Aging | | | ± 3 | | ppm/yr. | |
| Storage temperature range | | | -55 ~ 125 | | ℃ | |

Circuit : Measured by SAUNDERS & ASSOCIATES 250B-1 NETWORK ANALYZER

Insulation Resistance : More Than 500 MΩ at DC 100V

Hermetically (1)Fine Leak : Helium Bombing 4kg /$cm^2$ for 1 Hours

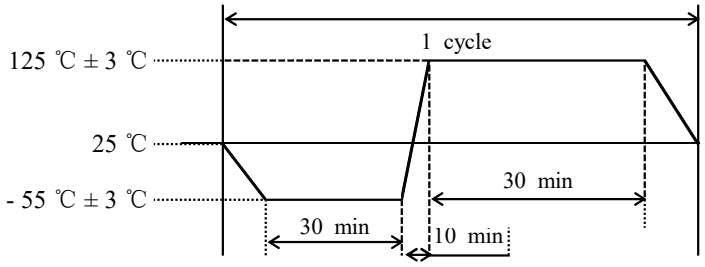
(2)Gross Leak : Leak Rate Less Than $1*10^{-9}$ Pa. $m^3$/sec

By Heliot 701W1 M/C

# TYPE HH SEAM SEALED X'TAL

## RELIABILITY SPECIFICATIONS

| NO. | TEST ITEM | TEST METHODS | |
|---|---|---|---|
| 1 | DROP TEST | Device are dropped from a height of 75 cm onto 2 mm thickness stainless plate executing 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℃±5℃ |
| | | 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℃ solder pot, above 180℃ is 90 ~ 120 sec. | |
| 6 | LOW TEMP. STORAGE | Leave at - 40 ℃ ± 2℃ for 16 hours | |
| 7 | HIGH TEMP. STORAGE | Leave at 125 ℃ ± 3℃ for 72 hours | |
| 8 | THERMAL SHOCK | Total 100 cycles of the following temperature cycle | |



# TYPE HH SEAM SEALED X'TAL

HLC

* 40.0Gx

**HLC:** **HLC Use Code x: CL Code** **x: Date Code**

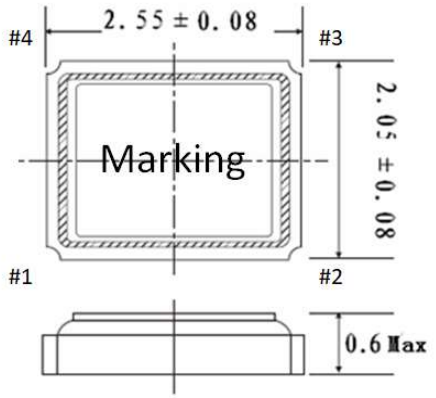
| CL | Code | CL | Code | CL | Code |
|---|---|---|---|---|---|
| 0pf | 0 | 7.5pf | H | 11.2pf | a |
| 6pf | 1 | 11pf | I | 11.4pf | b |
| 8pf | 2 | 8.5pf | J | 13.5pf | d |
| 10pf | 3 | 7.1pf | K | 20.5pf | e |
| 12pf | 5 | 19pf | L | 8.8pf | f |
| 15pf | 6 | 12.5pf | M | 17pf | g |
| 16pf | 7 | 27pf | N | 4.3pf | h |
| 18pf | 8 | 7.3pf | O | 9.9pf | i |
| 20pf | 9 | 13pf | P | 24pf | j |
| 22pf | A | 11.5pf | Q | 9.4pf | m |
| 25pf | B | 7pf | R | 8.2pf | n |
| 28pf | C | 14pf | S | 6.8pf | q |
| 30pf | D | 23pf | T | 90pf | r |
| 32pf | E | 11.1pf | U | 5.6pf | t |
| 9.5pf | F | 33pf | V | 5pf | u |
| 9pf | G | 10.5pf | W | 10.7pf | v |
| | | 9.2pf | Y | 7.2pf | y |
| | | 50pf | Z | | |

| | | | |
|---|---|---|---|
| Jan-25 | N | Jan-26 | A |
| Feb-25 | P | Feb-26 | B |
| Mar-25 | Q | Mar-26 | C |
| Apr-25 | R | Apr-26 | D |
| May-25 | S | May-26 | E |
| Jun-25 | T | Jun-26 | F |
| Jul-25 | U | Jul-26 | G |
| Aug-25 | V | Aug-26 | H |
| Sep-25 | W | Sep-26 | J |
| Oct-25 | X | Oct-26 | K |
| Nov-25 | Y | Nov-26 | L |
| Dec-25 | Z | Dec-26 | M |

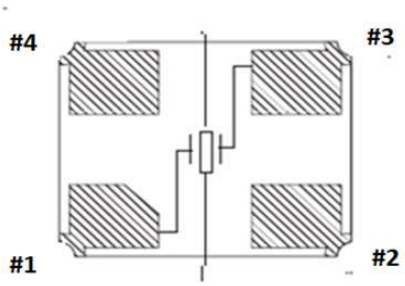
备注：年份印字代码原则按奇偶年两年一个循环

# TYPE HH SEAM SEALED X'TAL

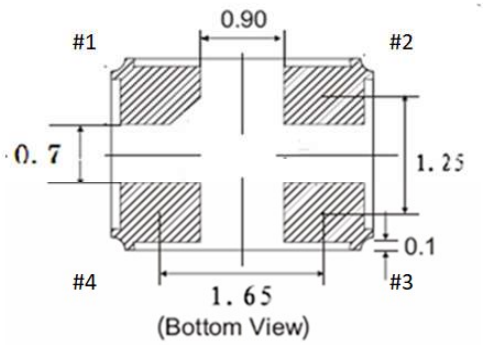
**DIMENSIONS**



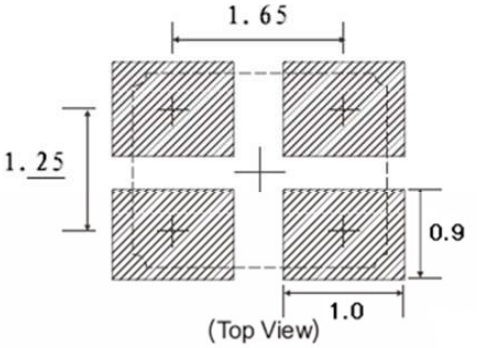

#1 CRY1
#2 GND
#3 CRY1
#4 GND



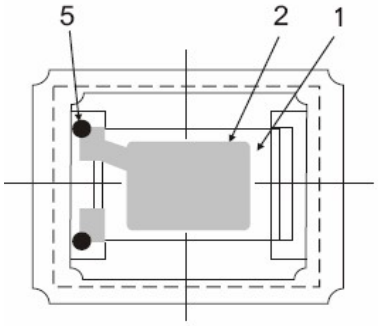

(Top View)

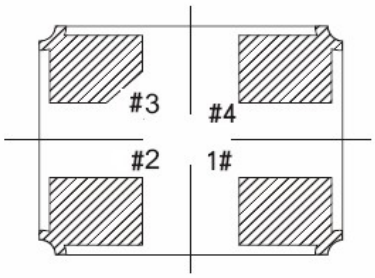



(Bottom View)

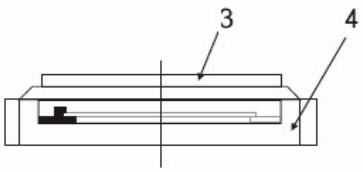


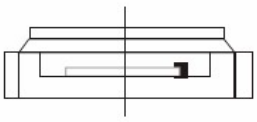

(Top View)



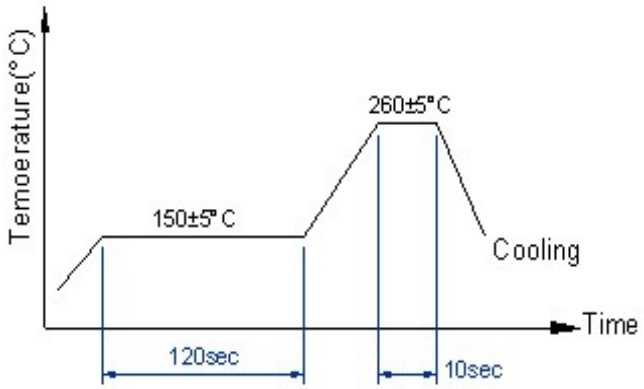

| | |
|---|---|
| 1 | Quartz Blank |
| 2 | Electrode |
| 3 | Lid |
| 4 | Base |
| 5 | Conductive adhesive |



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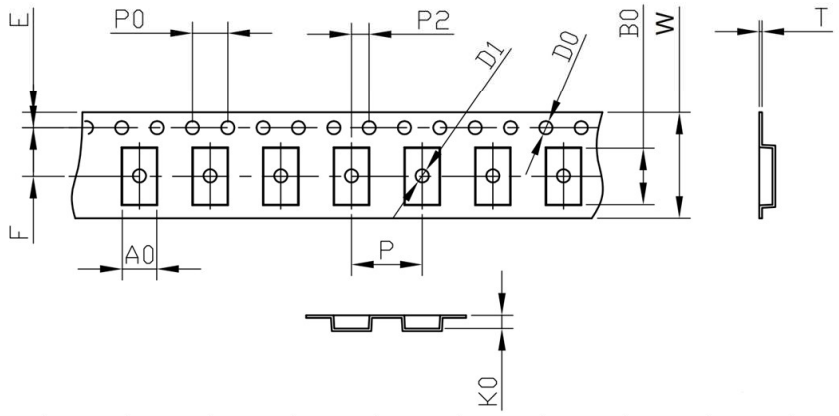
## SUGGESTED IR REFLOW PROFILE



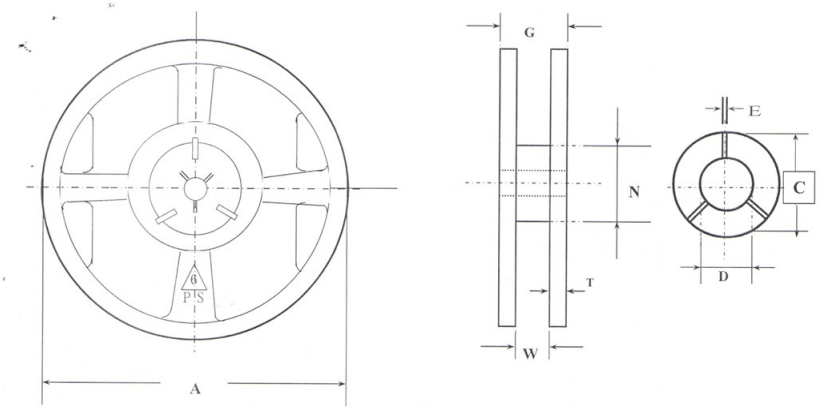

Total Time：200 Sec.Max

Solder melting point ： 185℃

## PACKING




| | W | $A_0$ | $B_0$ | $K_0$ | E | F | P | $P_0$ | $P_2$ | $D_0$ | $D_1$ | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2520 | 8.0±0.3 | 2.25±0.1 | 2.70±0.1 | 0.80±0.1 | 1.75±0.1 | 3.5±0.1 | 4.0±0.1 | 4.0±0.1 | 2.0±0.1 | 1.55±0.05 | 1.0±0.1 | 0.25±0.05 |




| | A | W | T | N | C | D | E | G |
|---|---|---|---|---|---|---|---|---|
| 2520 | 178±2.0 | 9.5±0.5 | 1.4±0.2 | 60.2±0.5 | 20.2±1.0 | 13.2±0.5 | 2.5±0.5 | 12±1.4 |

1. 230mm minimum leafer which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.

2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

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## PACKING

