

# CRYSTAL SPECIFICATION



CUSTOMER PART NO. : 9SL4000020AFHHF0  
PRODUCT CODE : 9SL4000020AFHHF0  
PRODUCT DESCRIPTION : HC49US CRYSTAL THRU HOLE TYPE


Customer Approval :

Hong Kong X'tals Limited



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Date : 09/07/2024	
Approved by :	
Mr. Ronald Chan / Product Engineer	

## CRYSTAL SPECIFICATION

Product Code : 9SL4000020AFHHF0

Description : Quartz Crystal

### Revision History

Rev.	Date	Reason	Issued By
0	07/08/2012		Xiao Cui

# CRYSTAL SPECIFICATION

Customer Part No. : 9SL4000020AFHHF0

Product Code : 9SL4000020AFHHF0

Description : Quartz Crystal

Nominal Frequency : 4.000 MHz

Oscillation Mode : Fundamental

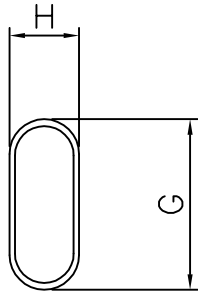
Holder Type : 9S

## Measure equipment

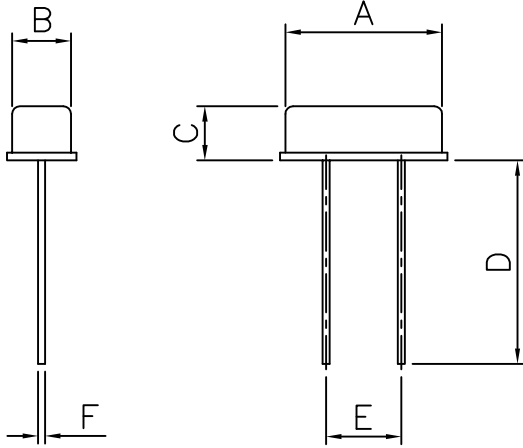
Electrical characteristics measured by Kolinker KH1240 or HP5100 equivalent.

Electrical Characteristics :

Load Capacitance	20 pF
Frequency Tolerance At 25 °C	± 30 ppm
Frequency Stability	± 50 ppm
Temperature Range	-20 ~ 70 °C
Operable Temperature Range	-40 ~ 85 °C
Ageing	< ± 5 ppm first year
Drive Level	50 µW
Equivalent Series Resistance	150 ohms Max.
Shunt Capacitance	7 pF Max.
Insulation Resistance	500M ohm Min at 100 VDC
Marking	4.000/BBB



TOP VIEW



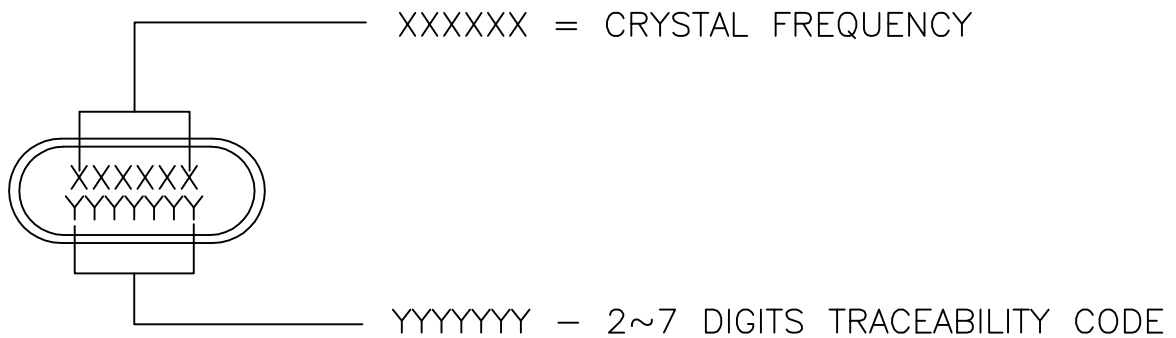
FRONT VIEW

SIDE VIEW

ITEM	DIMENSION	
A	10.16 Max.	
B	3.81 Max.	
C	TYPE	HEIGHT
	92	2.25/2.35mm*
	93	2.50mm Max.
	9S	3.50mm Max.
	94	4.00mm Max.
D	1.LEAD LENGTH 13.2±0.5(STANDARD)	
	2.LEAD LENGTH (2.8~16)±0.5 REFER TO CUSTOMER REQUEST	
E	4.88 ±0.2	
F	0.45 ±0.05	
G	11.05 Max.	
H	4.7 Max.	

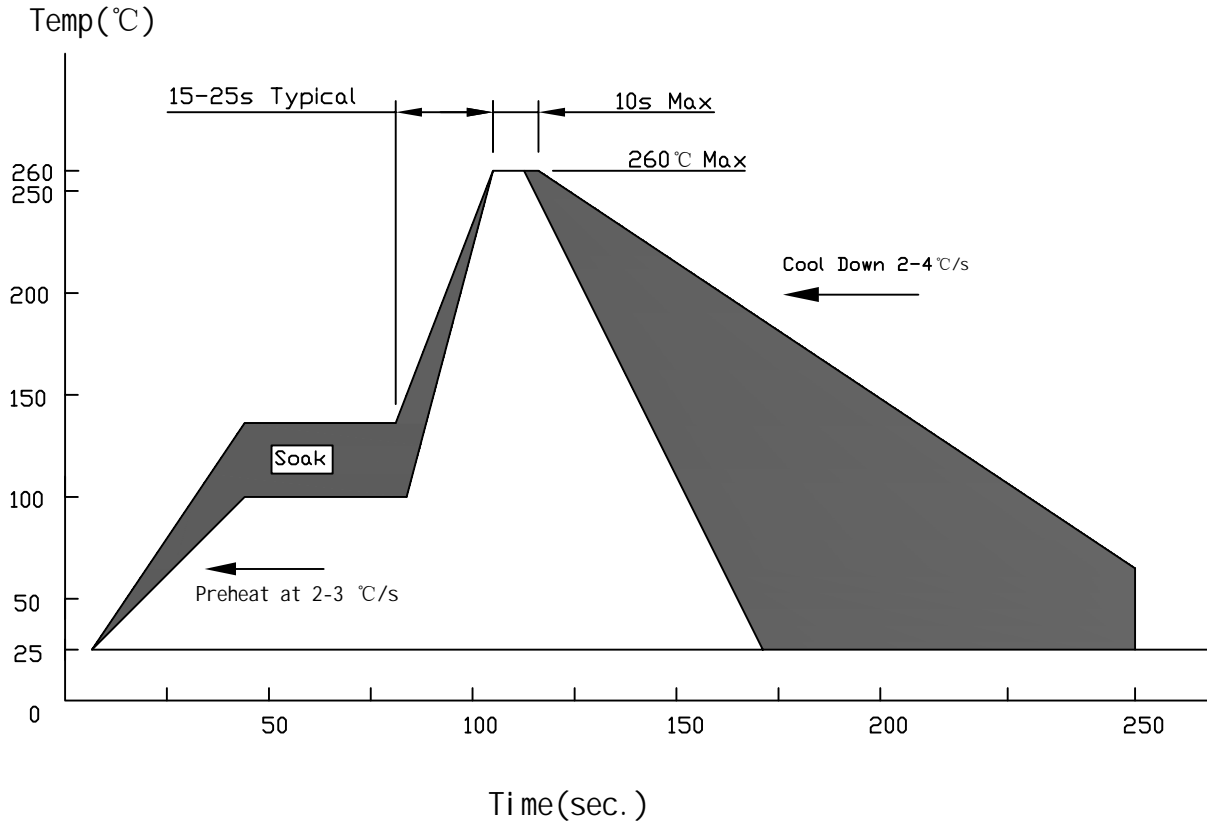
\* >5MHz = 2.25mm MAX  
 <5MHz = 2.35mm MAX

MARKING INFORMATION



49S DETAILS & MARKING INFORMATION							CREATIVE	
ITEM	QTY.	DESCRIPTION	MAT'L	HDN.	SURFACE	MAT'L SIZE	REMARK	
GENERAL TOLERANCE: .X=±0.5 .XX=±0.1 .XXX=±0.05		DATE	NAME		TITLE : HC-49US CRYSTAL			
PROPRIETARY NOTICE : THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTIES OF HKC.		DRAWN 2016-2-19	TAN		PART No.: 92 93 9S 94 95			
		CHECK 2016-2-19	PANG		DRAWING No.: 12033780			
DO NOT SCALE DRAWING		APROV. 2016-2-19			SCALE: NA		SHT. 1 OF 1	REV. 05
ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED								

## Wave Soldering Profile



### Note:

1. Only the lead wire region is exposed to high temperature
2. Ramp down rate : 4°C/ Sec. Max
3. Effective products:
  - Thru-hole AT cut 49US crystals, oscillators
  - Thru-hole ceramic resonators.

ITEM	QTY.	DESCRIPTION	MAT'L	HDN.	SURFACE	MAT'L SIZE	REMARK
GENERAL TOLERANCE:		DATE	NAME			TITLE: Thru-hole Packages(AT/CR) typical wave soldering profile	
X=±0.5	X°=±0.5°	DRAWN	TAN				
X=±0.1	X°=±0.1°	CHECK	PANG				
.XX=±0.05	.XX°=±0.05°	APROV.	2015-3-10				
PROPRIETARY NOTICE : THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF HKC.				<b>HONG KONG X'TALS LTD.</b>		PART No.: Refer to DWG Description	
						DRAWING No.: 13000003	
						DO NOT SCALE DRAWING	ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED