

CRYSTAL UNIT SPECIFICATIONS

Customer	
Customer P/N	
Product	49SA CRYSTAL
Nominal Frequency	25.000000MHz
HOSONIC P/N	E49A25E000013E
Version	10W0
Issue Date	2023/6/1

HOSONIC		
Drawn	Checked	Approved
LUCY	ZOE	JOHN

Approved By Customer : _____



HOSONIC TECHNOLOGY (GROUP) CO., LTD.



Revised Record

Rev.	Rev. Date	Item	Content	Remark
1.0	2023-06-01		Initial released	

I ELECTRICAL PARAMETERS

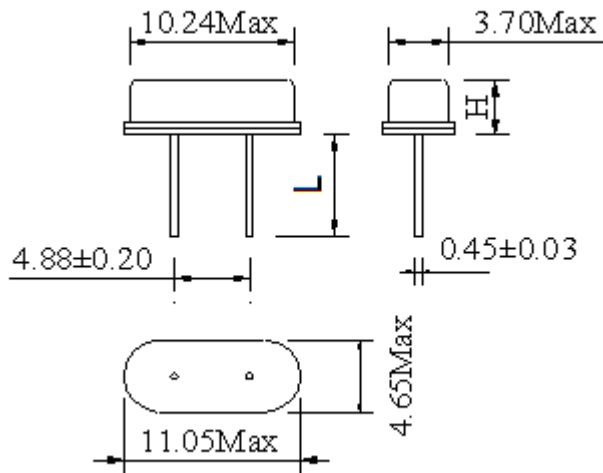
No.	Item	Symb.	Electrical Specification				Remark
			Min.	Typ.	Max.	Units	
1	Nominal Frequency	F0	25.000000			MHz	
2	Mode of Vibration		Fundamental				
3	Frequency Tolerance	$\Delta F/F0$	-30	-	30	ppm	at 25°C±3°C
4	Operating Temperature Range	T _{OPR}	-10	-	70	°C	
5	Frequency Stability (over operating temperature)	TC	-50	-	50	ppm	Ref. to 25°C
6	Storage Temperature	T _{STG}	-55	-	125	°C	
7	Load capacitance	CL	-	20	-	pF	
8	Equivalent Series Resistance	ESR	-	-	40	Ω	
9	Drive Level	DL	-	100	500	μW	
10	Insulation Resistance	IR	500	-	-	MΩ	At 100V _{DC}
11	Shunt Capacitance	C0	-	-	7	pF	
12	Aging Per Year	Fa	-5	-	5	ppm	First Year
13	Package type	HC-49SA					

NOTE: Storage Temperature is only for the product itself, the temperature for the packing material is -4~40°C.

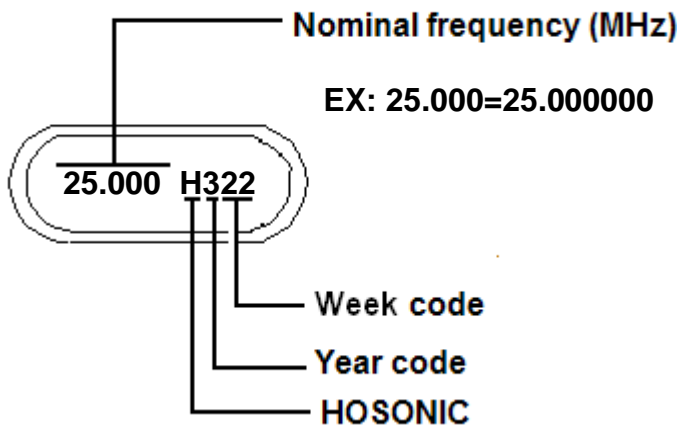
I STORAGE REQUIREMENT

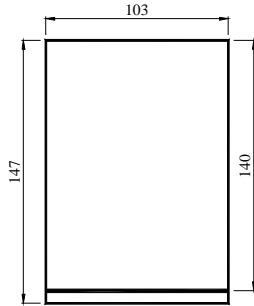
Storage environmental conditions: -4~40°C, 70%RH max.

Maximum storage time: 24 Months from date of manufacture.

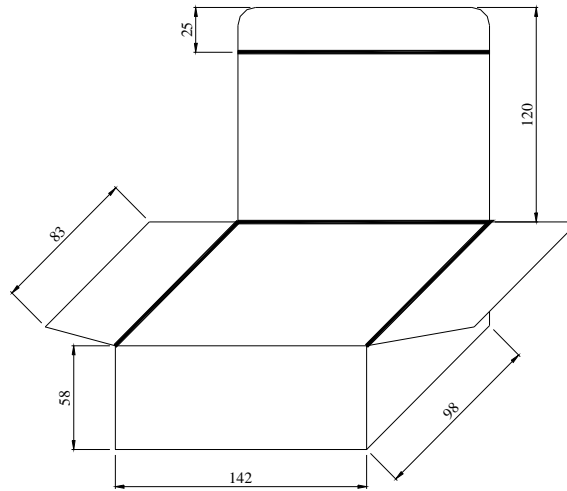
I Outline Dimensions (unit: mm)

$$L = 6.0 \pm 0.5 \quad H = 3.5 \text{MAX}$$

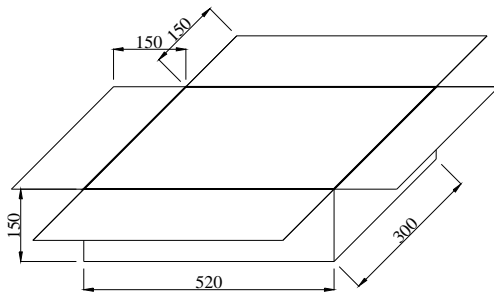
I MARKING

I PACKAGE (units : mm)

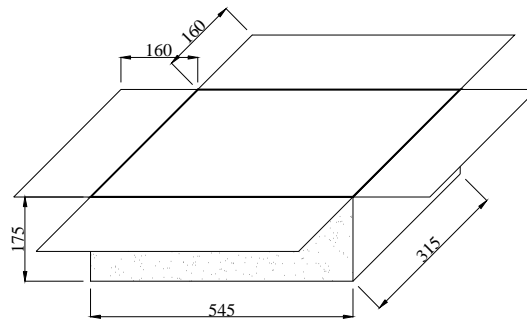
200 PCS = 1 BAG



5 BAGS = 1 INNER BOX



20 INNER BOX = 1 BOX



1 BOX = 1 OUTER BOX

* 20 K PCS = 1 OUTER BOX

I RELIABILITY SPECIFICATIONS

No.	Test Item	Test Conditions	Reference
1	High Temperature Storage	Temperature: 125°C ± 3°C Time: 1000 ± 12 Hours	MIL-STD-202 Method 108
2	Low Temperature Storage	Temperature: -40°C ± 3°C Time: 1000 ± 12 Hours	JIS-C7021 B-12
3	Temperature Cycle	Temperature 1: -55°C ± 3°C Temperature 2: 125°C ± 3°C Temperature change between T1 and T2 at soonest Run 1000 cycles, maintain T1 and T2 5minutes each in one cycle	JESD22 Method JA-104
4	Solder Heat Resistance	Pre-heat: 125°C 60~120 Seconds Solder Temperature: 260°C ± 5°C Time: 30 Seconds	MIL-STD-202 Method 210
5	Drop Test	3 Times Free Fall from 150cm height to concrete floor.	IEC 60068-2-32
6	High Temperature, High Humidity Storage	Temperature: 85°C ± 5°C Relative Humidity: 80%--85% Time: 250Hours ± 12 Hours	MIL-STD-202 Method 103
7	Solderability	Dip in flux 5~10 seconds Temperature: 245°C ± 5°C Time: 10 Seconds	J-STD-002
8	Aging	Temperature: 85°C ± 2°C Time: 250 ± 12Hours	MIL-STD-202 Method 108
9	Thermal Shock	Temperature 1: -55°C ± 3°C Temperature 2: 125°C ± 3°C Temperature change between T1 and T2: 5 seconds 100 cycles, maintain T1 and T2 for 30 minutes each in one cycle	MIL-STD-202 Method 107
10	Vibration	Frequency Range: 10Hz~2000Hz Amplitude: 1.5mm or 20G 4Hours in each direction, total 12Hours	MIL-STD-202 Method 204