

# QUARTZ CRYSTAL UNIT SPECIFICATION

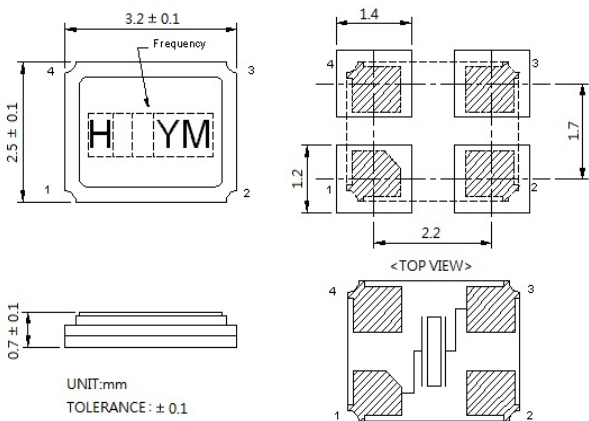
**Customer:**

**HELE P/N : X3S024000D81H-X**

**Customer P/N:**

**Date : 2015/07/16**

- |                                |   |                  |
|--------------------------------|---|------------------|
| 1. Frequency:                  | 24.000000MHz  | <b>Reference</b> |
| 2. Holder type :               | <b>HSX321S</b>  |                  |
| 3. Frequency tolerance:        | +/-20 ppm at 25deg.C +/-3deg.C  |                  |
| 4. Equivalent resistance:      | 60 ohms Max. / SERIES   |                  |
| 5. Storage temperature range:  | -40 deg.C To +85 deg.C  |                  |
| 6. Operable temperature range: | -20 deg.C To +70 deg.C  |                  |
| 7. Temperature drift:          | +/-30 ppm                      -20 deg.C To +70 deg.C                       |                  |
| 8. Loading capacitance (CL) :  | 8.0 pF  |                  |
| 9. Drive level:                | 10uW    (100uW Max.)  |                  |
| 10. Shunt Capacitance:         | 2.0 pF    Max.  |                  |
| 11. Insulation resistance :    | More than 500M ohms at DC 100V  |                  |
| 12. Mode of oscillation:       | Fundamental   |                  |
| 13. Circuit:                   | Measured in HP/E5100A,S&A 250B  |                  |
| 14. Shocking :                 | Dropping from 120 cm height 3 times on Concrete floor                       |                  |
| Variation :                    | Frequency less than +/-5 ppm<br>Resistance less than +/- 15 % or 2ohms max. |                  |
| 15. Aging:                     | Less than +/- 3 ppm/ Year   |                  |
| 16. Note:                      |   |                  |



\*Marking should be printed as following:

Logo, Nominal Frequency, Manufactured year & month

\*Nominal frequency = integer only

( ex. 14.31818 MHz → 14 )

\*Manufacturing Lot No.

(Y: year) ex. 2000 shall be marked as ' 0 '

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Code	0	1	2	3	4	5	6	7	8	9

(M: month) ex. June shall be marked as ' F '

Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
A	B	C	D	E	F	G	H	J	K	L	M

Marking: Laser marking.



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