

# QUARTZ CRYSTAL UNIT SPECIFICATION

**Customer:**

**Customer P/N:**

**Date :** 2014/10/09



- |                                |  |
|--------------------------------|--|
| 1. Frequency :                 | 4.000000 MHz   |
| 2. Holder Type :               | <b>SMD-49</b>  |
| 3. Frequency Tolerance :       | +/- 20 ppm At 25 °C +/- 3 °C   |
| 4. Equivalent Resistance:      | 100 ohms Max./Series   |
| 5. Storage temperature range:  | -40 °C To +85 °C   |
| 6. Operation Temperature Range | -40 °C To +85 °C   |
| 7. Temperature Drift :         | +/-50 ppm -40 °C To +85 °C   |
| 8. Loading Capacitance (CL) :  | 20.0 pF  |
| 9. Drive Level :               | 50 uW (300 uW Max)   |
| 10. Shunt Capacitance :        | 7.0 pF Max.  |
| 11. Insulation Resistance :    | More Than 500M Ohms at DC 100V   |
| 12. Mode Of Oscillation :      | Fundamental  |
| 13. Circuit :                  | Measured in S&A 250B,HP/E5100A   |
| 14. Shocking :                 | Dropping from 50cm height 3 times on firm wood   |
| Variation :                    | Frequency less than +/- $5 \times 10^{-6}$<br>Resistance less than +/- 15 % or 2 ohms max. |
| 15. Aging :                    | Less than +/-5 ppm / Year  |
| 16. Sealing Test :             | No air bubble are appeared with in 1 atm alcohol for Three minutes.                        |
| 17. Note:                      |  |

18. Marking :

Under our method

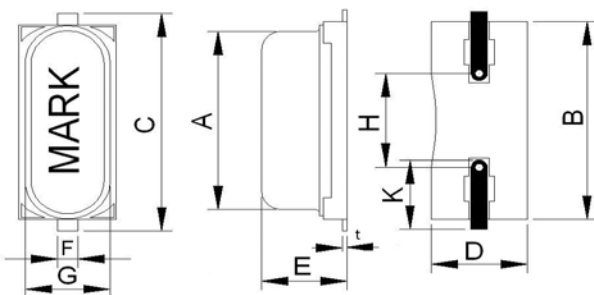
MARK : H FREQ XY

X: Alphabet For Month e.g. A: JAN. B: FEB.

Y : Digit For Year e.g. 4 : 2004 5 : 2005

DIMENSION(mm) :

- |                       |                  |
|-----------------------|------------------|
| A: 10.15mm Max        | B: 11.00+/-0.2mm |
| C: 12.10mm-0.1/+0.3mm | D: 4.8mm. Max    |
| H: 4.9mm+/-0.2mm      | F: 0.8mm+/-0.1mm |
| G: 3.75mm Max         | K: 3.8mm Max     |
| t :0.25+/-0.02mm      | E: 4.5 Max       |



**HARMONY ELECTRONICS CORP.**