

QUARTZ CRYSTAL UNIT

Product Brief Introduction

SERIES: HC49U

Application:

Radio communication, Audio-visual equipment, Office automation equipment, Consumer product

**Specification**

|   |                                 |
|---|---------------------------------|
| Frequency range                                     | See table 1                     |
| Vibration mode                                      | AT cut: fundamental. Third      |
| Frequency tolerance at 25 °C                        | ±10, ±15, ±20, ±30, ±50 ppm     |
| Operating temperature range and frequency stability | See Table 2                     |
| Equivalent series resistance                        | See Table 1                     |
| Shunt capacitance                                   | 7.0pF max or special            |
| Measure instrument                                  | S&A 250B PI system              |
| Load capacitance                                    | Series, 16, 20, 30pF or special |
| Drive level   | 10,100, 300, 500uW or special   |
| Insulation resistance                               | 500 M Ω min/DC 100V             |
| Aging   | ±1, 3, 5ppm/ year               |
| Storage temperature range                           | -40 ~ +85°C                     |

**Table 1/ Frequency range & Equivalent Series resistance**

| Frequency (MHz) | Vibration mode | HC-49U(Ω) | HC-49T(Ω) | HC-50U(Ω) | HC-50T(Ω) |
|-----------------|----------------|-----------|-----------|-----------|-----------|
| 1.8~1.99        | Fundamental /F | 700       |           | 700       |           |
| 2.0~2.99        | Fundamental /F | 500       | 600       | 500       | 600       |
| 3.0~3.19        | Fundamental /F | 300       | 400       | 300       | 400       |
| 3.2~3.99        | Fundamental /F | 150       | 200       | 150       | 200       |
| 4.0~4.49        | Fundamental /F | 90        | 150       | 90        | 150       |
| 4.5~4.99        | Fundamental /F | 70        | 80        | 70        | 80        |
| 5.0~6.99        | Fundamental /F | 50        | 60        | 50        | 60        |
| 7.0~9.99        | Fundamental /F | 35        | 40        | 35        | 40        |
| 10.0~30.0       | Fundamental /F | 25        | 25        | 25        | 25        |
| 20.0~24.99      | Third/ O3      | 45        | 50        | 45        | 50        |
| 25.0~90.0       | Third/ O3      | 40        | 40        | 40        | 40        |
| 90.1~160.0      | Third/ O3      | 70        | 70        | 70        | 70        |

**Table 2/ Operating temperature range and frequency stability**

| TEMP \ PPM | ±3 | ±5 | ±7.5 | ±10 | ±15 | ±20 | ±30 | ±50 |
|------------|----|----|------|-----|-----|-----|-----|-----|
| 0~+50°C    | ☆  | ☆  | ☆    | ☆   | ☆   | ☆   | ☆   | ☆   |
| -10~+60°C  | ☆  | ☆  | ☆    | ☆   | ☆   | ☆   | ☆   | ☆   |
| -20~+70°C  |    | ☆  | ☆    | ☆   | ☆   | ☆   | ☆   | ☆   |
| -30~+80°C  |    |    |      | ☆   | ☆   | ☆   | ☆   | ☆   |
| -40~+90°C  |    |    |      |     | ☆   | ☆   | ☆   | ☆   |

The mark " ☆ " denotes our achieved level

DIMENSIONS (mm)

