# ATS-49U CRYSTAL UNIT



■ **ATS XTAL Height : 3.6mm**

- Metal Thru-Hole package
- Fundamental and 3rd overtone crystal design
- Tight stability, Ultra low ESR and Lead cut available
- Bulk packagaing standard, Tape & Reel packaging available

● Applications : Consumer electronics, Industrial applications, Telecommunications

## ■ Standard Specification

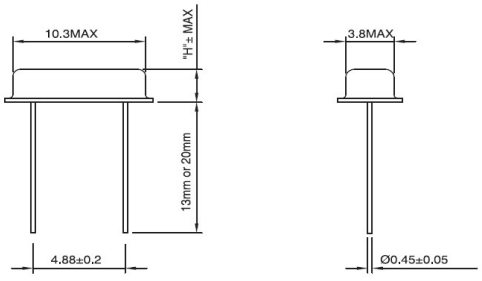
| | | |
|---|---|---|
| Frequency range | 3.579545MHz to 75.000MHz | |
| Oscillation mode | Fundmental & 3rd overtone | |
| Load capacitance (CL) | 6pF to 32pF or please specify | |
| Frequency tolerance (25℃) | ±10ppm, ±20ppm, ±30ppm, ±50ppm | |
| Frequency Stability vs Temp range | Temp Stability | Operating temp |
| | ±15ppm<br>±20ppm<br>±30ppm<br>±50ppm<br>±100ppm | -10 to +60℃<br>-20 to +70℃<br>-40 to +85℃ |
| Storage temperature range | -55℃ to +125℃ | |
| Shunt Capacitance ( C0 ) | 7.0pF Max | |
| Level of drive (DL) | 300㎼ Max (std) or please specify | |
| Aging (Initial first year) | ± 3ppm Max | |

### ■ Motional resistance (ESR)

| Frequency (MHz) | Mode | CI (Ω) max | Frequency (MHz) | Mode | CI (Ω) max |
|---|---|---|---|---|---|
| 3.579545 ≤ f < 4.2 | F | 140 | 12 ≤ f < 34 | F | 40 |
| 4.2 ≤ f < 5 | F | 100 | 22 ≤ f < 40 | BT | 40 |
| 5 ≤ f < 8 | F | 80 | 26 ≤ f < 45 | 3rd | 70 |
| 8 ≤ f < 12 | F | 60 | 45 ≤ f < 75 | 3rd | 60 |

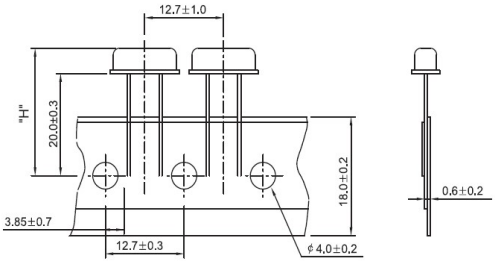
*Please contact us for lower ESR

### ■ Dimensions (mm)




| H | |
|---|---|
| ATS-49U | 3.6mm |

• T&R Packaging Drawing




| H | |
|---|---|
| ATS-49U | 23.6mm |

Human & Science H&S HighTech Corp. Address : 62-7 Techno 1-ro, Yuseong-Gu, Daejeon, 34014, Republic of Korea
Email : sales@hnshightech.com | Tel : +82-42-866-1300 http://hnshightech.com:3000/product/frequency/7

## ■ Part Numbering Guide

ATS-49U 10 1 30 AJ 24.000000 TR

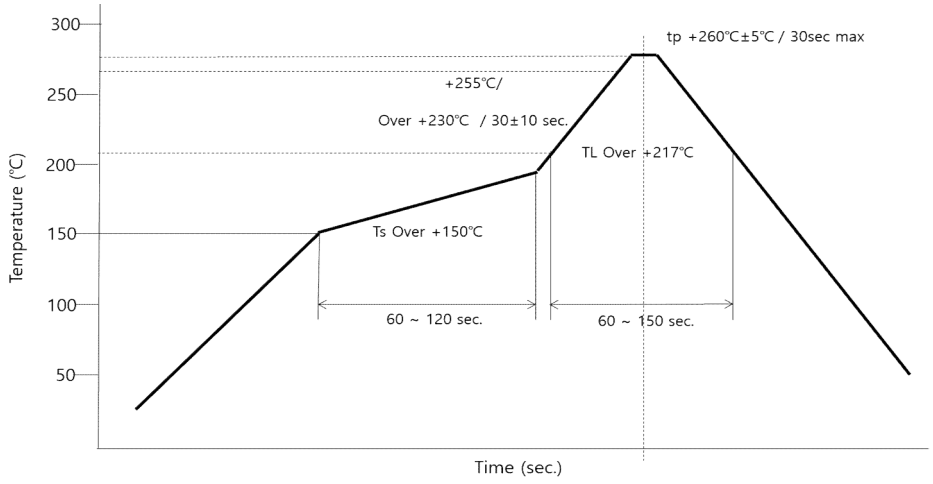
- ▶Package Type
- ▶Load Capacitance (pF)
- ▶(1) : Fund. AT, (3) : 3rd OT
- ▶Packing Type (Blank) : Bulk, (TR) : Tape&Reel [1,000pcs]
- ▶Center Frequency : xxx.xxxxxxMHZ
- ▶Stability(ppm) vs. Temperature Range(℃)
- ▶@25℃ Tolerance (±ppm)

## ■ Frequency Stability vs. Temperature Range

| Temp' vs Stability | | ±10ppm | ±15ppm | ±20ppm | ±25ppm | ±30ppm | ±50ppm | ±100ppm | ±150ppm |
|---|---|---|---|---|---|---|---|---|---|
| | | J | K | L | M | N | O | P | Q |
| -10 ~ 60℃ | A | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| -10 ~ 70℃ | B | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| -20 ~ 70℃ | C | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| -30 ~ 70℃ | D | | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| -30 ~ 85℃ | E | | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| -40 ~ 85℃ | F | | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ | ◎ |
| -40 ~ 90℃ | G | | | | | ◎ | ◎ | ◎ | ◎ |
| -40 ~ 105℃ | H | | | | | ◎ | ◎ | ◎ | ◎ |
| -40 ~ 125℃ | I | | | | | ◎ | ◎ | ◎ | ◎ |
| -40 ~ 150℃ | J | | | | | | | ◎ | ◎ |

*Please contact us for other specifications.

## ■ Recommendation reflow condition




(1) Reflow soldering heat resistance
Peak Temp. : 265℃, 30sec max.
Heating : 230℃ or higher, 40sec.
Preheating : 150~180℃, 120sec.
Reflow passage times : 2 times

(2) Manual soldering heat resistance
Pressing a soldering iron of 350℃ on the terminal electrode
Soldering touch time : 4sec.
Manual soldering times : 2 times