

**AT-CUT CRYSTAL UNIT** (SMD • Metal-can Type)

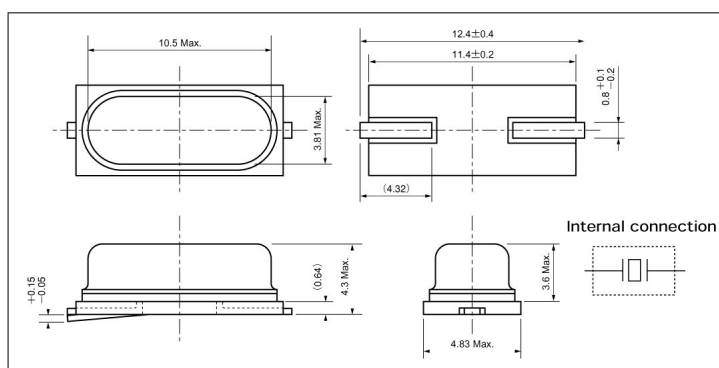
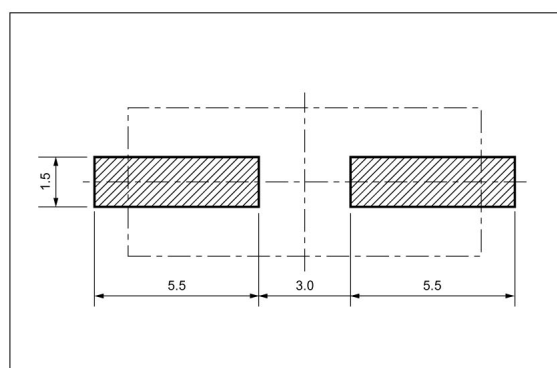
RoHS Compliant Optional

**HCM49**

1000pcs/reel

**FEATURES**

- Surface mount type of metal-can HC-49/U-S. High performance with the resistance weld sealing.
- Automatic mounting and reflowable Type.
- Suitable for various applications such as communication devices, AV devices, automotive devices and measuring instruments.

**DIMENSION [mm]****SOLDER PAD LAYOUT [mm]****STANDARD SPECIFICATIONS**

| Item                                                 | Model          | HCM49                            | Conditions                                     |
|------------------------------------------------------|----------------|----------------------------------|------------------------------------------------|
| Nominal Frequency                                    | $f_0$          | 3.5MHz~30.0MHz (Fundamental)     | Need to contact us for the available frequency |
|                                                      |                | 30.001MHz~50.0MHz (3rd Overtone) |                                                |
| Frequency Tolerance                                  | $\Delta f/f_0$ | $\pm 30\text{ppm}$               | at 25°C                                        |
| Frequency Tolerance over Operating Temperature Range | $\Delta f/f_0$ | $\pm 50\text{ppm}$               | -10°C ~ +60°C                                  |
| Operating Temperature Range                          | $T_{OPR}$      | -40°C ~ +85°C                    |                                                |
| Storage Temperature Range                            | $T_{STR}$      | -55°C ~ +125°C                   |                                                |
| Motional (series) resistance                         | $R_1$          | Refer to the following table     | at 25°C                                        |
| Load capacitance                                     | $C_L$          | 18.0pF                           | Need to specify your requirement               |
| Shunt capacitance                                    | $C_0$          | 7.0pF Max.                       |                                                |
| Level of drive                                       | $D_L$          | 100 $\mu\text{W}$ Max.           |                                                |
| Insulation Resistance                                | $I_R$          | 500M $\Omega$ Min.               | DC100V $\pm 15\text{V}$                        |
| Aging (first year)                                   | $\Delta f/f_0$ | $\pm 5\text{ppm}$ Max.           | 25°C $\pm 3^\circ\text{C}$                     |

**MOTIONAL (SERIES) RESISTANCE ( $R_1$ )**

| Frequency Range | $3.5\text{MHz} \leq f_0 < 4.0\text{MHz}$ | $4.0\text{MHz} \leq f_0 < 6.0\text{MHz}$ | $6.0\text{MHz} \leq f_0 < 10\text{MHz}$ | $10\text{MHz} \leq f_0 < 14\text{MHz}$ | $14\text{MHz} \leq f_0 < 30\text{MHz}$ | $30\text{MHz} \leq f_0 < 36\text{MHz}$ | $36\text{MHz} \leq f_0 \leq 50\text{MHz}$ |
|-----------------|------------------------------------------|------------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|-------------------------------------------|
| Mode            | Fundamental                              | Fundamental                              | Fundamental                             | Fundamental                            | Fundamental                            | 3rd Overtone                           | 3rd Overtone                              |
| $R_1$           | 200 $\Omega$ Max.                        | 150 $\Omega$ Max.                        | 100 $\Omega$ Max.                       | 80 $\Omega$ Max.                       | 50 $\Omega$ Max.                       | 140 $\Omega$ Max.                      | 100 $\Omega$ Max.                         |