



Quartz Crystal · HC49/U

- Pin Type Crystal, 10.8 x 4.5 mm
- high frequency stability
- wave soldering temperature: 260 °C max.
- customized versions available, please ask



RoHS compliant



Pb free



REACH compliant

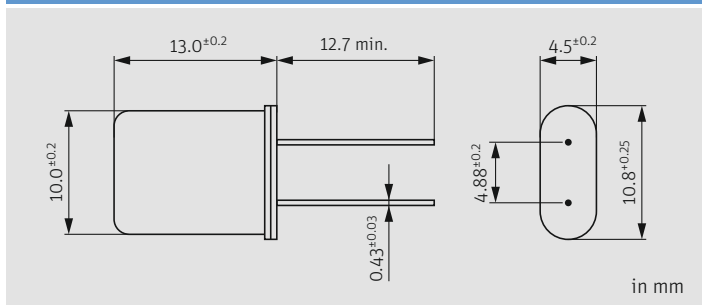


Conflict mineral free

GENERAL DATA

| TYPE | S (HC49/U) |
|------------------------------|--|
| frequency range | 1.8432 ~ 40.0 MHz (fund. AT-cut) 20.0 ~ 105.0 MHz (3rd OT AT-cut) 50.0 ~ 175.0 MHz (5th OT AT-cut) 70.0 ~ 250.0 MHz (7th OT AT-cut) |
| frequency tolerance at 25 °C | ±3 ppm ~ ±50 ppm |
| load capacitance C_L | 8 pF ~ 32 pF or series |
| shunt capacitance C_0 | < 7 pF |
| storage temperature | -55 °C ~ +125 °C |
| drive level max. | 1.0 mW (100 μW recommended) |
| aging | < ±5 ppm first year |

DIMENSIONS



MARKING

frequency
company code / load capacitance
date code / internal code

ESR (SERIES RESISTANCE RS)

| frequency in MHz | vibration mode | ESR max. in Ω | ESR typ. in Ω |
|------------------|----------------|---------------|---------------|
| 1.8432 | fund. - AT | 800 | 400 |
| 2.0 ~ 2.999 | fund. - AT | 400 | 150 |
| 3.0 ~ 3.499 | fund. - AT | 150 | 50 |
| 3.57 ~ 6.999 | fund. - AT | 60 | 20 |
| 7.00 ~ 12.999 | fund. - AT | 30 | 15 |
| 13.0 ~ 40.000 | fund. - AT | 20 | 10 |
| 20.0 ~ 29.999 | 3rd OT - AT | 80 | 35 |
| 30.0 ~ 105.00 | 3rd OT - AT | 60 | 30 |
| 50.0 ~ 175.00 | 5th OT - AT | 150 | 60 |
| 70.0 ~ 250.00 | 7th OT - AT | 180 | 80 |

TABLE 1: FREQUENCY STABILITY VS. TEMPERATURE

| | | ±3 ppm | ±5 ppm | ±10 ppm | ±30 ppm | ±50 ppm | ±100 ppm |
|------------------|------|--------|--------|---------|---------|---------|----------|
| 0 °C ~ +60 °C | | ○ | ○ | ○ | | | |
| -20 °C ~ +70 °C | STD. | | ○ | ○ | ● | | |
| -40 °C ~ +85 °C | T1 | | | ○ | ○ | ● | |
| -40 °C ~ +90 °C | T4 | | | | ○ | ○ | ○ |
| -40 °C ~ +105 °C | T2 | | | | ○ | ○ | ○ |
| -40 °C ~ +125 °C | T3 | | | | | | ○ |

● standard ○ available

OPTION TABLE

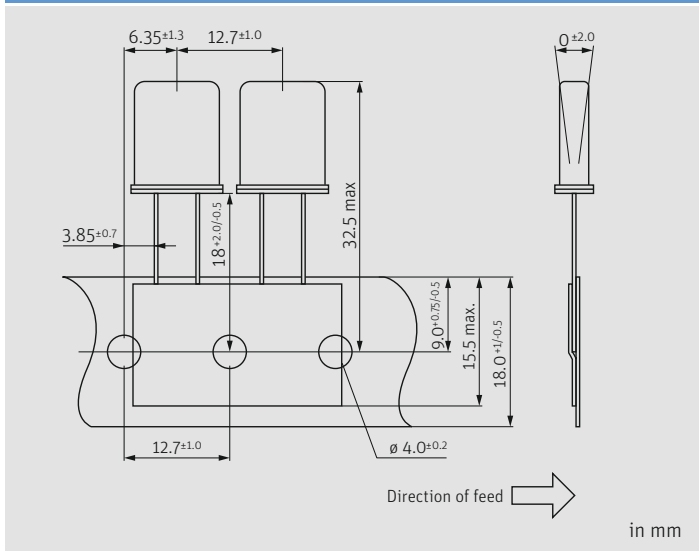
TP = top pin KIS = spacer
 MP = middle pin IS = isolation spacer
 TR = tape and reel LL = lead length in mm
 TA = taped, ammo pack PT = plastic tray

ORDER INFORMATION

| Q | frequency | type | load capacitance in pF | tolerance at 25 °C | stability vs. temp. range | option |
|--------|--------------------|------|---|--|--|--|
| Quartz | 1.8432 ~ 250.0 MHz | S | 30 pF standard 12 pF ~ 32 pF S for series | ±30 ppm std. > 1.8 MHz ±3 ppm ~±50 ppm on requ. | > 3.5 MHz: stability see table, on request < 3.5 MHz: ±50 ppm | blank = -20 °C ~ +70 °C T1 = -40 °C ~ +85 °C T2 = -40 °C ~ +105 °C T3 = -40 °C ~ +125 °C T4 = -40 °C ~ +90 °C FU = for fund. frequencies ≥ 20 MHz 3OT = 3rd overtone 5OT = 5th overtone 7OT = 7th overtone |

Example: Q 28.0-S-30-30/30-T1-FU-LF (Suffix LF = RoHS compliant / Pb free pins) other see option table

TAPING SPECIFICATION THROUGH HOLE VERSION



WAVE SOLDERING PROFILE

