

kHz RANGE CRYSTAL UNIT LOW PROFILE SMD

FC-13D / FC-13E

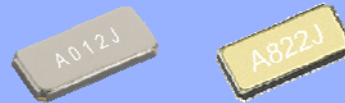
- Frequency range : 32.768 kHz
- External dimensions : 3.2 × 1.5 × 0.38 t (mm) ...FC-13D
: 3.2 × 1.5 × 0.48 t (mm) ...FC-13E
- Overtone order : Fundamental
- Applications : Small communications devices
Smart Card



Product Number (please contact us)

FC-13D : X1Axxxxxxx00

FC-13E : X1A000041xxxx00



Actual size



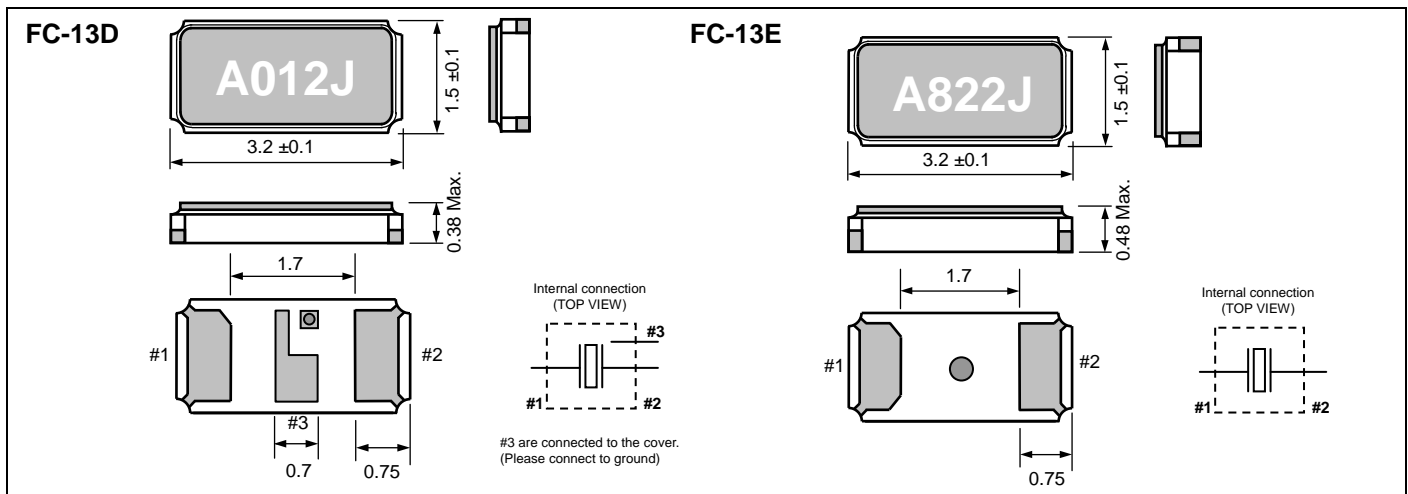
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Specifications (characteristics)

| Item | Symbol | Specifications | | Remarks |
|--------------------------------|--------------------------------|---|-------------------------|---|
| | | FC-13D | FC-13E | |
| Nominal frequency range | f_nom | 32.768 kHz | | |
| Temperature range | Storage temperature T_stg | -55 °C to +125 °C | | Store as bare product after unpacking |
| | Operating temperature T_use | -40 °C to +85 °C | | |
| Level of drive | DL | 0.5 μW Max. | | |
| Frequency tolerance (standard) | f_tol | ±20 × 10 ⁻⁶ | ±100 × 10 ⁻⁶ | +25 °C, DL=0.1 μW Please ask for tighter tolerance |
| Turnover temperature | Ti | +25 °C ±5 °C | | |
| Parabolic coefficient | B | -0.04 × 10 ⁻⁶ / °C ² Max. | | |
| Load capacitance | CL | 7 pF, 9 pF, 12.5 pF | 9 pF, 12.5 pF | Please specify |
| Motional resistance (ESR) | R1 | 75 kΩ Max. | | |
| Motional capacitance | C1 | 3.2 fF Typ. | 3.4 fF Typ. | |
| Shunt capacitance | C0 | 1.0 pF Typ. | | |
| Frequency aging | f_age | ±3 × 10 ⁻⁶ / year Max. | | +25 °C, First year |

External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)

