

kHz RANGE CRYSTAL UNIT



Product Number (please contact us)
FC-12D: X1A000111xxxx00

FC - 12D

- Frequency range : 32.768 kHz
- External dimensions : 2.05 × 1.25 × 0.35 mm
- Overtone order : Fundamental
- Applications : Smart card (Please contact us for except Smart card use.)



Actual size

FC-12D

Specifications (characteristics)

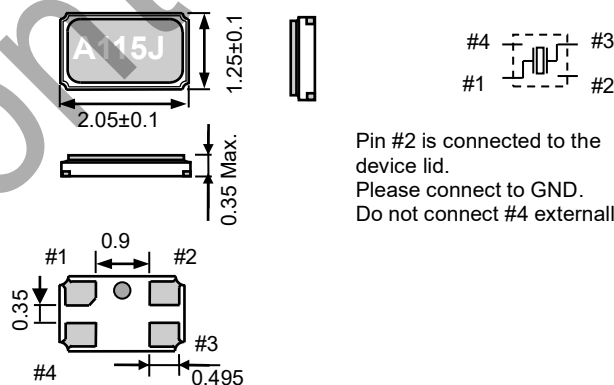
Item	Symbol	Specifications	Conditions / Remarks
Nominal frequency range	f_nom	32.768 kHz	Please contact us about available frequencies.
Storage temperature	T_stg	-55 °C to +125 °C	Storage as single product.
Operating temperature	T_use	-40 °C to +85 °C	
Level of drive	DL	0.25 μW Max.	
Frequency tolerance (standard)	f_tol	±20 × 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, 9pF, 12.5pF	Please specify
Motional resistance (ESR)	R ₁	75 kΩ Max.	
Motional capacitance	C ₁	3.7 fF Typ.	
Shunt capacitance	C ₀	0.8 pF Typ.	
Frequency aging	f_age	±3 × 10 ⁻⁶ / year Max.	+25 °C, First year

Product name FC-12D 32.768000kHz 12.5 +20.0-20.0
(Standard form) ① ② ③ ④

①Model ②Frequency ③Load capacitance(pF) ④Frequency tolerance(× 10⁻⁶, +25 °C)

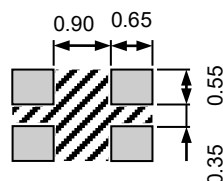
External dimensions

(Unit: mm)



Footprint (Recommended)

(Unit: mm)



*Do not design any circuit patterns in the shaded area.