

## kHz RANGE CRYSTAL UNIT LOW PROFILE SMD

# FC-13D / FC-13E

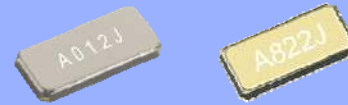
- Frequency range : 32.768 kHz
- External dimensions : 3.2 × 1.5 × 0.38 t (mm) ...FC-13D  
: 3.2 × 1.5 × 0.48 t (mm) ...FC-13E
- Overtone order : Fundamental
- Applications : Small communications devices  
Smart Card



Product Number (please contact us)

FC-13D : X1Axxxxxxx00

FC-13E : X1A000041xxxx00



Actual size



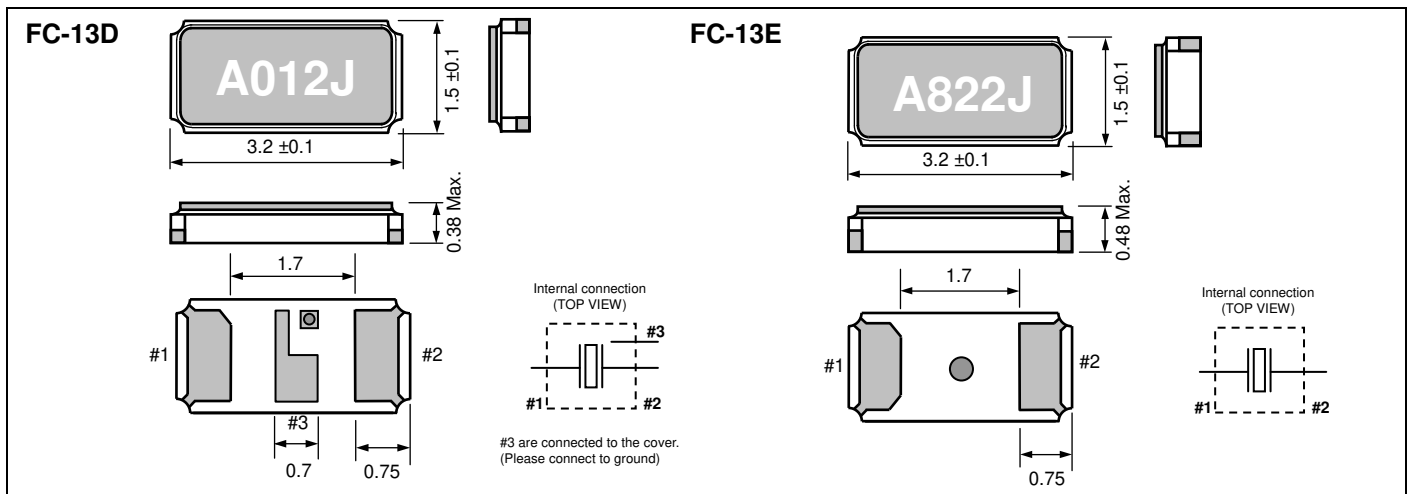
**NEW**

### 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 <sup>-6</sup>	±100 × 10 <sup>-6</sup>	+25 °C, DL=0.1 μW Please ask for tighter tolerance
Turnover temperature	Ti	+25 °C ±5 °C		
Parabolic coefficient	B	-0.04 × 10 <sup>-6</sup> / °C <sup>2</sup> 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 <sup>-6</sup> / year Max.		+25 °C, First year

### External dimensions

(Unit:mm)



### Footprint (Recommended)

(Unit:mm)

