

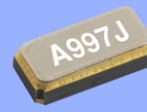
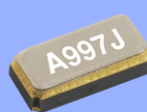


Product Number (please contact us)
X1A000091xxxx00

kHz RANGE CRYSTAL UNIT FOR AUTOMOTIVE APPLICATIONS LOW PROFILE SMD

FC - 13A

- Frequency range : 32.768 kHz
- External dimensions : $3.2 \times 1.5 \times 0.9$ mm
- Overtone order : Fundamental
- Applications : Accessories and ECU sub clock
- Conforms to AEC-Q200



Actual size

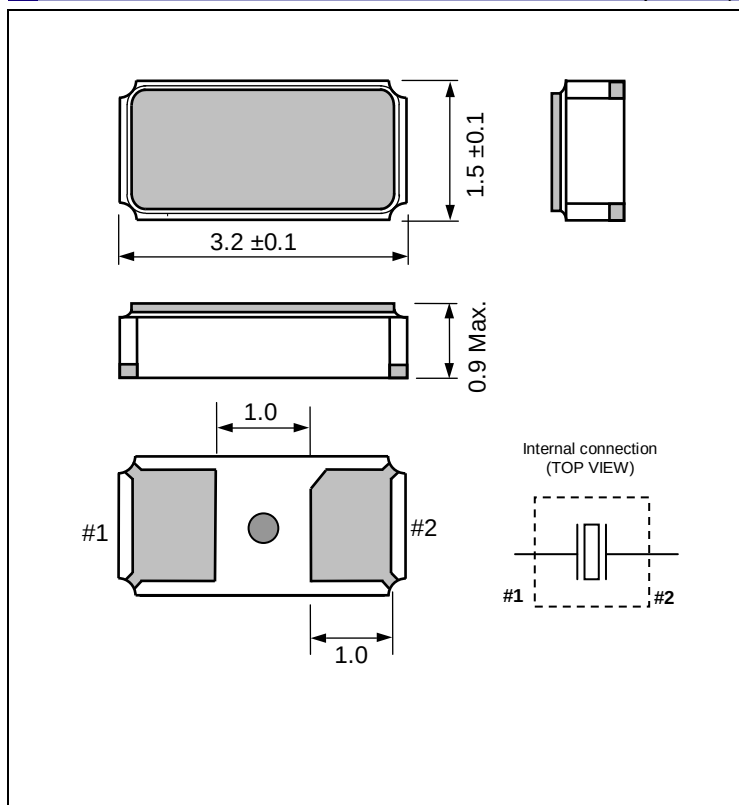


Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Nominal frequency range	f_nom	32.768 kHz	
Storage temperature	T_stg	-55 °C to +125 °C	Store as bare product.
Operating temperature	T_use	-40 °C to +125 °C	
Level of drive	DL	0.5 μW Max.	
Frequency tolerance (standard)	f_tol	$\pm 20 \times 10^{-6}$, $\pm 30 \times 10^{-6}$, $\pm 50 \times 10^{-6}$	+25 °C, DL=0.1 μW
Turnover temperature	Ti	+25 °C $\pm$ 5 °C	
Parabolic coefficient	B	$-0.04 \times 10^{-6} / ^\circ\text{C}^2$ Max.	
Load capacitance	CL	9 pF, 12.5 pF	Please specify
Motional resistance (ESR)	R1	70 kΩ Max.	
Motional capacitance	C1	3.2 fF Typ.	
Shunt capacitance	C0	0.9 pF Typ.	
Frequency aging	f_age	$\pm 3 \times 10^{-6} / \text{year}$ Max.	+25 °C, First year

External dimensions

(Unit:mm)



Footprint (Recommended)

(Unit:mm)

