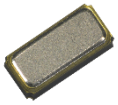
kHz RANGE CRYSTAL UNIT
For Automotive

FC3215BA / CA

For Automotive | Pb Free | RoHS Compliant

Product Number
FC3215BA: X1A000221xxxx16
FC3215CA: X1A000231xxxx16

- •Frequency range : 32.768 kHz
- •External dimensions : 3.2 x 1.5 x 0.9 mm
- •Overtone order : Fundamental
- •Applications : Infotainment, battery monitoring ECU
  High-temperature applications for
  Factory Automation, etc.
- • AEC-Q200 compliant



Specifications (characteristics)

Item	Symbol	Specifications	Conditions / Remarks
Nominal frequency range	f_nom	32.768 kHz	
Storage temperature range	T_stg	-55 °C to +125 °C	Storage as single product.
Operating temperature range	T_use	-40 °C to +125 °C	
Level of drive	DL	0.5 µW	
Frequency tolerance (standard)	f_tol	±20 x 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 x 10^{-6} / °C^2 Max.	
Load capacitance	CL	6 pF, 7 pF, 9 pF, 12.5 pF	Please contact us for other CL values
Motional resistance (ESR)	R1	40 kΩ Typ.	+25 °C
		65 kΩ Max.	-40 °C to +105 °C
		70 kΩ Max.	-40 °C to +125 °C
Motional capacitance	C1	3.4 fF Typ.	
Shunt capacitance	C0	1.0 pF Typ.	
Frequency aging	f_age	±3 x 10^{-6} / year Max.	+25 °C, First year

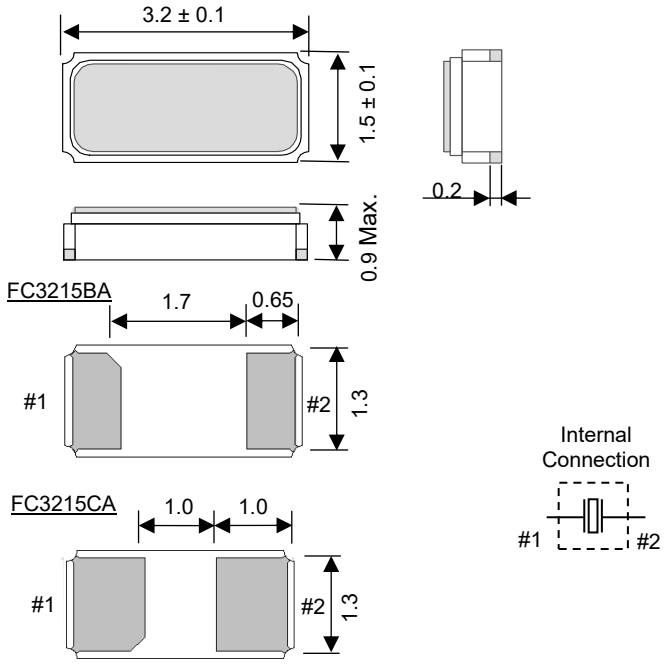
Product name

Product name (Standard form)

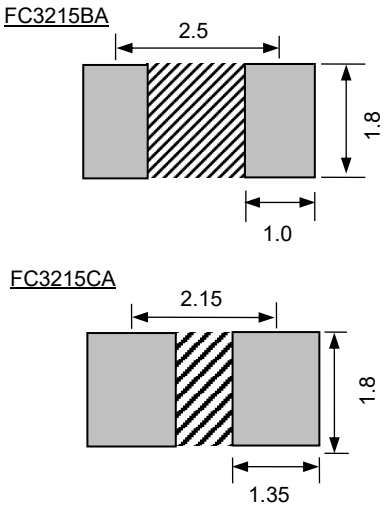
FC3215BA	32.768000kHz	12.5	+20.0-20.0
a	b	c	d

a. Model b. Frequency c. Load capacitance (pF) d. Frequency tolerance (× 10^{-6}, +25 °C)

External dimensions (Unit:mm)



Footprint (Recommended) (Unit:mm)



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

►Explanation of the mark that are using it for the catalog

Pb Free	►Lead-free product *No lead is intentionally added.
RoHS Compliant	►EU RoHS Compliant Product *Compliant with the EU RoHS Directive. The product is either exempt or below applicable limits for restricted substances.
For Automotive	►Designed for automotive general equipment.
Automotive Safety	►Designed for automotive applications related to driving and safety.

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