

SEIKO EPSON CORPORATION



FC2012AN

Low ESR 50 kΩ Max.

 Frequency range 	:	32.768 kHz
 External dimensions 	:	2.05 x 1.2 x 0.6 mm
 Overtone order 	:	Fundamental

Specifications (characteristics)

 Applications : IoT Devices, Modules, etc.



Product Number FC2012AN: X1A000171xxxx18





Symbol Specifications Conditions / Remarks Item Nominal frequency range f_nom 32.768 kHz Storage temperature range -55 °C to +125 °C Storage as single product. T_stg Operating temperature range T_use -40 °C to +105 °C Level of drive DL 0.5 μW Max. Frequency tolerance ±20 x 10⁻⁶ f_tol +25 °C, DL = 0.1 μW (standard) Ti Turnover temperature +25 °C \pm 5 °C -0.04 x 10⁻⁶ / °C² Max. Parabolic coefficient В CL Load capacitance 9 pF, 12.5 pF Contact us for other CL values 35 kΩ Typ.. +25 °C, Motional resistance (ESR) R1 50 kΩ Max. -40 °C to +85 °C 60 kΩ Max. -40 °C to +105 °C Motional capacitance C1 8.4 fF Typ. Shunt capacitance C0 1.6 pF Typ. Frequency aging f_age \pm 3 x 10⁻⁶ / year Max. +25 °C, First year

(Unit:mm)

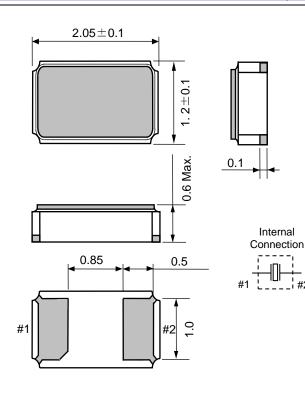
Product name (Standard form) FC2012AN 32.768000kHz 2 Model ②Frequency

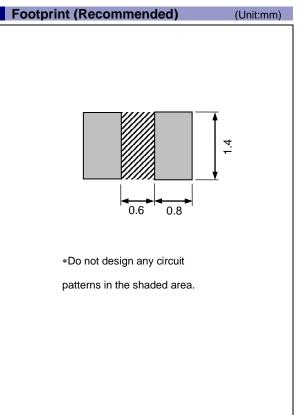
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<u>12.5</u> <u>+20.0-20.0</u> 3 (4)

④Frequency tolerance (x 10⁻⁶, +25 °C) ③Load capacitance (pF)

External dimensions





PROMOTION OF ENVIRONMENTAL MANAGEMENT SYSTEM CONFORMING TO INTERNATIONAL STANDARDS

At Seiko Epson, all environmental initiatives operate under the Plan-Do-Check-Action (PDCA) cycle designed to achieve continuous improvements. The environmental management system (EMS) operates under the ISO 14001 environmental management standard.

All of our major manufacturing and non-manufacturing sites, in Japan and overseas, completed the acquisition of ISO 14001 certification.

WORKING FOR HIGH QUALITY

In order provide high quality and reliable products and services than meet customer needs, Seiko Epson made early efforts towards obtaining ISO9000 series certification and has acquired ISO9001 for all business establishments in Japan and abroad. We have also acquired IATF 16949 certification that is requested strongly by major automotive manufacturers as standard.

Explanation of the mark that are using it for the catalog

ISO 14000 is an international standard for environmental management that was established by the International Standards Organization in 1996 against the background of growing concern regarding global warming, destruction of the ozone layer, and global deforestation.

IATF 16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

Pb Free	► Pb free.
RoHS	 Complies with EU RoHS directive. *About the products without the Pb-free mark. Contains Pb in products exempted by EU RoHS directive. (Contains Pb in sealing glass, high melting temperature type solder or other.)
For Automotive	► Designed for automotive applications such as Car Multimedia, Body Electronics, Remote Keyless Entry etc.
Automotive Safety	► Designed for automotive applications related to driving safety (Engine Control Unit, Air Bag, ESC etc).

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Other applications requiring similar levels of reliability as the above

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