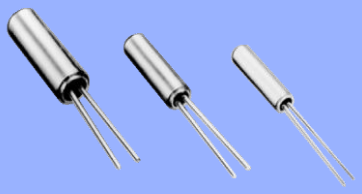
kHz RANGE CRYSTAL UNIT

C - TYPE
C - 2 TYPE

- Frequency range : 32.768 kHz（20 kHz～120 kHz）
- Thickness : φ1.2 mm ～φ2.0 mm Max.
- Overtone order : Fundamental
- Applications : Clock and Microcomputer

Pb Free　RoHS Compliant

Product Number (please contact us)
C-002RX : Q11C02RX1xxxx00
C-004R : Q11C004R1xxxx00
C-005R : Q11C005R1xxxx00
C-2 TYPE : Q12C20001xxxx00



Actual size

C-002RX

C-002RX
C-2 TYPE

C-004R

C-005R

Specifications for C-TYPE (characteristics)

Item	Symbol	C-002RX	C-004R	C-005R	Conditions / Remarks
Nominal frequency range	f_nom	32.768 kHz			
Storage temperature	T_stg	-20 °C to +70 °C			Storage as single product.
Operating temperature	T_use	-10 °C to +60 °C			
Level of drive	DL	1.0 µW Max.			
Frequency tolerance (standard)	f_tol	$\pm 20 \times 10^{-6}$			+25 °C, DL=0.1 µW
Turnover temperature	Ti	+25 °C ± 5 °C			
Load capacitance	CL	6 pF to ∞			Please specify
Motional resistance (ESR)	R_1	50, 60 kΩ Max.（30 kΩ Typ.）	50 kΩ Max.（30 kΩ Typ.）	50 kΩ Max.（37 kΩ Typ.）	
Frequency aging	f_age	$\pm 3 \times 10^{-6}$ / year Max.			+25 °C, First year

Specifications for C-2 TYPE (characteristics)

Item	Symbol	C-2 TYPE	Conditions / Remarks
Nominal frequency range	f_nom	20 kHz to 120 kHz	Please contact us about available frequencies.
Storage temperature	T_stg	-20 °C to +70 °C	Storage as single product.
Operating temperature	T_use	-10 °C to +60 °C	
Level of drive	DL	1.0 µW Max.	
Frequency tolerance (standard)	f_tol	$\pm 20 \times 10^{-6}$, $\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$	+25 °C, DL=0.1 µW
Turnover temperature	Ti	+25 °C ± 5 °C	
Load capacitance	CL	6 pF to ∞	Please specify
Motional resistance (ESR)	R_1	As per table below	
Frequency aging	f_age	$\pm 5 \times 10^{-6}$ / year Max.	+25 °C, First year

Motional resistance C-2 TYPE

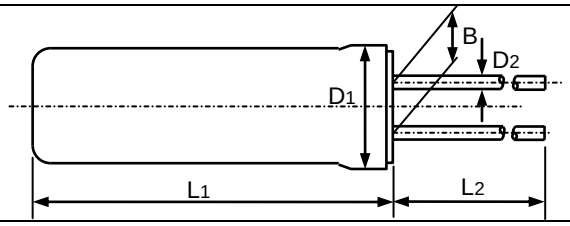
Frequency	20 kHz≦f_nom＜31.2 kHz	31.2 kHz≦f_nom＜40 kHz	40 kHz≦f_nom＜90 kHz	90 kHz≦f_nom≦120 kHz
Motional resistance	55 kΩ Max.	35 kΩ Max.	20 kΩ Max.	12 kΩ Max.

Product name (Standard form)　C-002RX ① 32.768000kHz ② 12.5 ③ +20.0-20.0 ④

①Model ②Frequency ③Load capacitance(pF) ④Frequency tolerance($\times 10^{-6}$, +25 °C)

External dimentions

(Unit:mm)



Model	L1	L2	D1	D2	B
C-002RX C-2 TYPE	6.0 Max.	4.0 Min.	φ 2.0 Max.	φ 0.2	0.7
C-004R	5.0 Max.	4.0 Min.	φ 1.5 Max.	φ 0.18	0.5
C-005R	4.6 Max.	4.0 Min.	φ 1.2 Max.	φ 0.15	0.3

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.

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.

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 ISO/TS 16949 certification that is requested strongly by major automotive manufacturers as standard.

ISO/TS16949 is the international standard that added the sector-specific supplemental requirements for automotive industry based on ISO9001.

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

Pb Free	►Pb free.
RoHS Compliant	►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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LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

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- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
- *Формирование склада под заказчика.*

- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
- *Поставку компонентов, требующих военную и космическую приемку.*
- *Входной контроль качества.*
- *Наличие сертификата ISO.*

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

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