Crystal unit

kHz RANGE CRYSTAL UNIT SMD

MC-306 MC-405/MC-406

: 32.768 kHz (20 kHz to 120 kHz) •Frequency range Thickness : $8.0 \times 3.8 \times 2.54 \text{ mm} \cdot \cdot \cdot \text{MC-306}$

10.41 × 4.06 × 3.6 mm ···MC-405/406

 Overtone order : Fundamental

 Applications : Clock and Microcomputer



Product Number (please contact us) MC-306 : Q1xMC3062xxxx00 MC-405 : Q1xMC4052xxxx00 : Q1xMC4062xxxx00 MC-406







Actual size

MC-306 MC-405/406 32.768k E 571

32.768k E 6571A

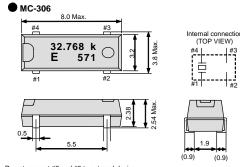
Specifications (characteristics)

Item	Symbol	Specifications		Conditions / Remarks
Nominal frequency range	f_nom	32.768 kHz	20 kHz to 120 kHz	Please contact us about available frequencies.
Storage temperature	T_stg	-55 °C to +125 °C		Storage as single product.
Operating temperature	T_use	-40 °C to +85 °C		
Level of drive	DL	1.0 μW Max.		
Frequency tolerance (standard)	f_tol	$\pm 20 \times 10^{-6}, \pm 50 \times 10^{-6}$	$\pm 50 \times 10^{-6}, \pm 100 \times 10^{-6}$	+25 °C, DL=0.1 μW
Turnover temperature	Ti	+25 °C ±5 °C		
Parabolic coefficient	В	-0.04 × 10 ⁻⁶ / °C ² Max.		
Load capacitance	CL	6 pF to ∞ (standard :12.5 pF)		Please specify
Motional resistance (ESR)	R ₁	50 kΩ Max.	As per table below	
Motional capacitance	C ₁	1.8 fF Typ.	4.0 fF to 0.6 fF	MC-306
		2.0 fF Typ.	4.0 IF 10 0.0 IF	MC-405 / 406
Shunt capacitance	Co -	0.9 pF Typ.	20 = 5 to 0.6 = 5	MC-306
		0.85 pF Typ.	2.0 pF to 0.6 pF	MC-405 / 406
Frequency aging	f_age	$\pm 3 \times 10^{-6}$ / year Max.	$\pm 5 \times 10^{-6}$ / year Max.	+25 °C, First year

Motional resistance (ESR)

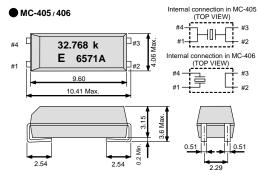
Frequency	20 kHz≤f_nom< 31.2 kHz	31.2 kHz≤f_nom< 40 kHz	40 kHz≤f_nom< 90 kHz	90 kHz≤f_nom≤120 kHz
Motional resistance	55 kΩ Max.	35 kΩ Max.	20 kΩ Max.	12 kΩ Max.

External dimensions



Do not connect #2 and #3 to external device.

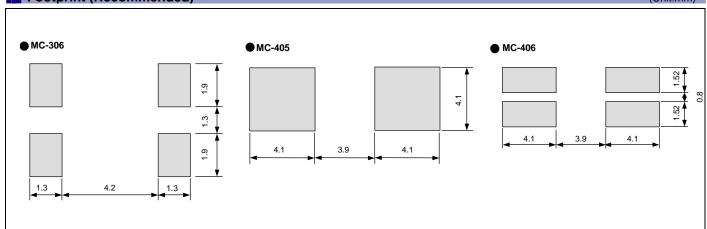
The metal case inside of the molding compound may be exposed on the top or bottom of this product. This purely cosmetic and does not have any effect on quality, reliability or electrical specs.



Do not connect #2 and #3 of MC-406 to external device The first digit of No. means: 5xxxx MC-405 6xxxx MC-406

Footprint (Recommended)

(Unit:mm)



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.



- ► 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.)



▶ The products have been designed for high reliability applications such as Automotive.

Notice

- This material is subject to change without notice.
- Any part of this material may not be reproduced or duplicated in any form or any means without the written permission of Seiko Epson.
- The information about applied circuitry, software, usage, etc. written in this material is intended for reference only. Seiko Epson does not assume any liability for the occurrence of infringing on any patent or copyright of a third party. This material does not authorize the licensing for any patent or intellectual copyrights.
- When exporting the products or technology described in this material, you should comply with the applicable export control laws and regulations and follow the procedures required by such laws and regulations.
- You are requested not to use the products (and any technical information furnished, if any) for the development and/or manufacture of
 weapon of mass destruction or for other military purposes. You are also requested that you would not make the products available to
 any third party who may use the products for such prohibited purposes.
- These products are intended for general use in electronic equipment. When using them in specific applications that require extremely high reliability, such as the applications stated below, you must obtain permission from Seiko Epson in advance.
 - / Space equipment (artificial satellites, rockets, etc.) / Transportation vehicles and related (automobiles, aircraft, trains, vessels, etc.) / Medical instruments to sustain life / Submarine transmitters / Power stations and related / Fire work equipment and security equipment / traffic control equipment / and others requiring equivalent reliability.
- · All brands or product names mentioned herein are trademarks and/or registered trademarks of their respective.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for epson manufacturer:

Other Similar products are found below:

MA-505 24.0000M-C3 ROHS MC-405 32.7680K-G3: ROHS FA-128 25.0000MF10Z-AC S5U13L02P00C100 SSU13U11P00C100 SG5032CAN 10.000000M-TJGA3 SG5032VAN 200.000000M-KEGA3 SG-210STF 2.0480ML3 SG-531P 7.3728MC:ROHS X1G0044810005 SG7050CAN 10 MHZ S5U1C31W74T1300 S5U1C17W04T2100 IC Socket for 7050 case SG-210STF 40.0000ML TSX-3225 26.0000MF10Z-B6 S5U13513P00C100 SG-210STF 13.5600ML3 SG5032CCN 16.000000M-HJGA3 Q3851CA000055 XG-1000CA 50 MHZ EG-2121CA 644.53125MLGPA M160 MA-506 4.0000M-C3 ROHS EG-2121CA2000000M-LGPAL3 S5U13U00P00C100 FA-118T 52.0000ME12Z-AC3 SG-Writer-II S5U1C17001H3100 S5U13513R00C100 IC Socket for 5032 case SG-210STF 4.0960ML S5U13517P00C200 S5U13748P00C100 S5U1C17W18T2100 SG-310SCF 20.0000MM S5U13781R01C100 Q336150110002 SG-615P 20 MHZ C MA-506 25.0000M-C3:ROHS S5U1C17M13T2100 S5U1C17M13T1100 TG-3541CE 32.7680KXB3 FA-238 25.0000MB50X-C3 RX-8803LC:UB3 PURE SN SG-3030LC 32.7680KB3, PURE SN SG-615P 8.0000MC3: ROHS Q3102JF010001 SG-3030JF 32.768KHZ B M150 S5U1C17W15T2100 FC-135 32.7680KA-K0 XG-2121CA 156.2500M-PGSNB FA-128 25.0000MF20X-WX