

# **kHz RANGE CRYSTAL UNIT**



**Product Number** 

MC-146 : Q1xMC1462xxxx0X



MC-146···32.768 kHz •Frequency range

MC-146 TYPE---32 kHz to 100 kHz

External dimension :  $7.0 \times 1.5 \times 1.4 \text{ mm}$ Overtone order Fundamental

 Applications Small communications devices





#### Specifications (characteristics)

Item	Symbol	Specifications		Conditions / Demodus
		MC-146	MC-146 TYPE	Conditions / Remarks
Nominal frequency range	f_nom	32.768 kHz	32 kHz to 100 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.		Operating Drive level 0.5 μW Max.
Frequency tolerance (standard)	f_tol	$\pm 20 \times 10^{-6}, \pm 50 \times 10^{-6}$	$\pm 50 \times 10^{-8}, \pm 100 \times 10^{-6}$	+25 C, DL=0.1 μW
Turnover temperature	Ti	+25 C±5 C		
Parabolic coefficient	В	$-0.04 \times 10^{-8} / C^2 \text{ Max}.$		
Load capacitance	CL	7 pF, 9 pF, 12.5 pF		Please specify
Motional resistance (ESR)	R1	65 kΩ Max.	65 kΩ to 25 kΩ	
Motional capacitance	C1	1.9 fF Typ.	2.5 fF to 0.6 fF	
Shunt capacitance	C0	0.8 pF Typ.	1.2 pF to 0.5 pF	
Frequency aging	f_age	±3 × 10 <sup>-6</sup> / year Max.	±5 × 10 <sup>-6</sup> / year Max.	+25 C, First year

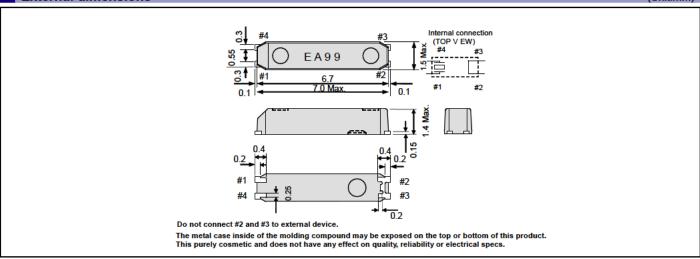
Product name (Standard form) MC-146 32.768000kHz 12.5 +20.0-20.0

1 Model

③Load capacitance(pF) @Frequency

## External dimensions

(Unit:mm)



### Footprint (Recommended)

(Unit:mm)

