

KHz RANGE CRYSTAL UNIT LOW PROFILE SMD

MC-146 / MC-156

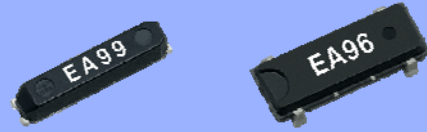
- Frequency range : 32.768 kHz (32 kHz to 100 kHz)
- External dimension : 7.0 × 1.5 × 1.4 t (mm) ...MC-146
7.1 × 3.3 × 1.5 t (mm) ...MC-156
- Overtone order : Fundamental
- Applications : Small communications devices



Product Number (please contact us)

MC-146 : Q14MC146xxxxx00

MC-156 : Q14MC156xxxxx00



Actual size

MC-146

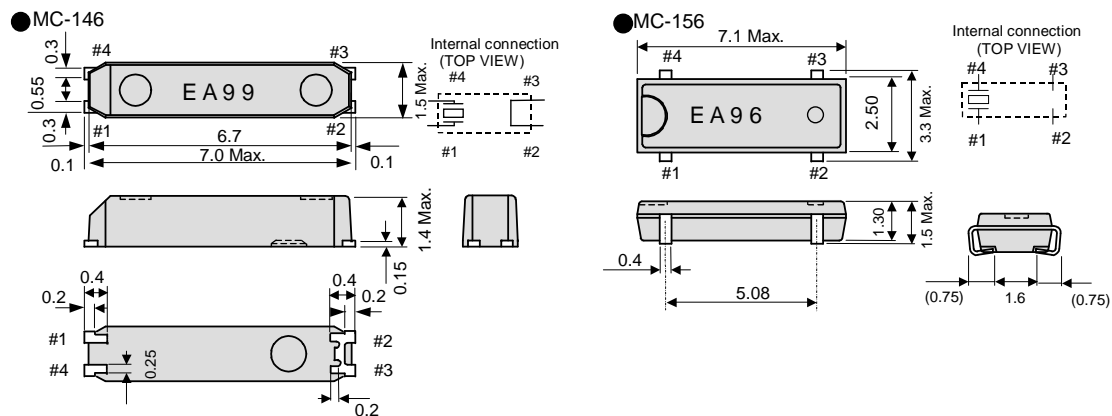
MC-156

Specifications (characteristics)

Item	Symbol	Specifications		Remarks
Nominal frequency range	f_nom	32.768 kHz	32 kHz to 100 kHz	Please contact us for inquiries regarding available frequencies
Temperature range	Storage temperature	-55 °C to +125 °C		Store as bare product after unpacking
	Operating temperature	-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	± 20 × 10 ⁻⁶ , ± 50 × 10 ⁻⁶	± 50 × 10 ⁻⁶ , ± 100 × 10 ⁻⁶	+25 °C, DL=0.1 μW
Turnover temperature	Ti	+25 °C ± 5 °C		
Parabolic coefficient	B	-0.04 × 10 ⁻⁶ / °C ² Max.		
Load capacitance	CL	7 pF, 9 pF, 12.5 pF		Please specify
Motional resistance (ESR)	R ₁	65 kΩ Max.	65 kΩ to 25 kΩ	
Motional capacitance	C ₁	1.9 fF Typ.	2.5 fF to 0.6 fF	
Shunt capacitance	C ₀	0.8 pF Typ.	1.2 pF to 0.5 pF	
Frequency aging	f_age	± 3 × 10 ⁻⁶ / year Max.	± 5 × 10 ⁻⁶ / year Max.	+25 °C, First year

External dimensions

(Unit:mm)



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

Metal may be exposed on the top or bottom of this product. This will not affect any quality, reliability or electrical spec.

Footprint (Recommended)

(Unit:mm)

