

THIN SMD LOW/MEDIUM-FREQUENCY CRYSTAL UNIT

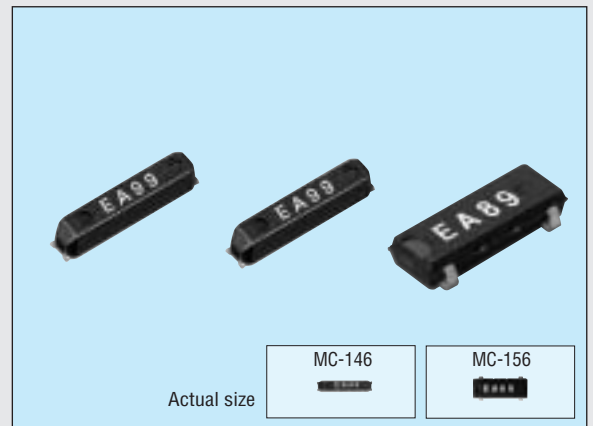
MC-146/156

Product number (please refer to page 1)

Q1xMC146xx xx x00

Q1xMC156xx xx x00

- High-density mounting-type SMD of 1.4 mm thickness.(MC-146)
- Small packaging area and light weight.
- Excellent environmental capability.
- Most suitable for small communications devices.

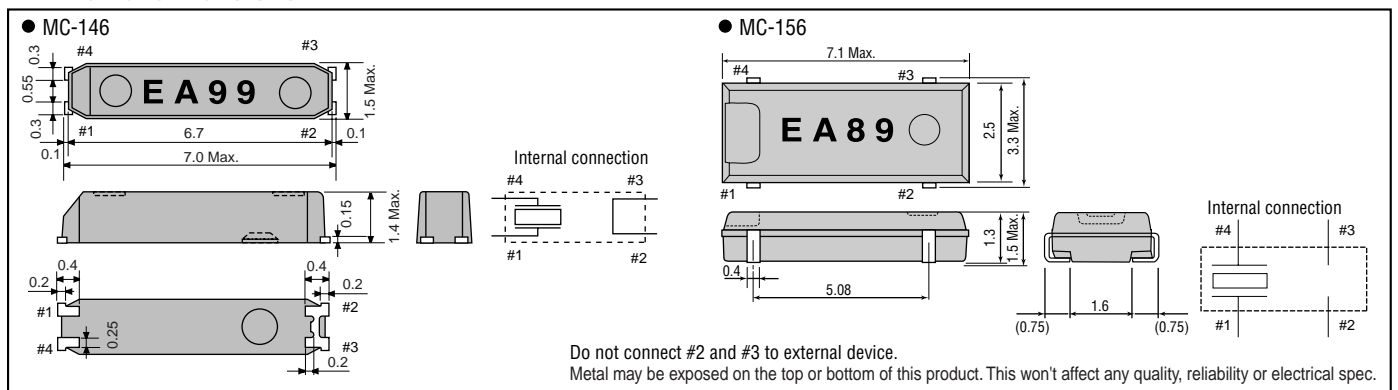


Specifications (characteristics)

Item	Symbol	Specifications		Remarks
Nominal frequency	f	32.768 kHz	32.000 kHz to 100.000 kHz	please contact us for inquiries about the available frequencies
Temperature range	Storage temperature	TSTG -55 °C to +125 °C		Stored as bare product after unpacking
	Operating temperature	TOPR -40 °C to +85 °C		
Maximum drive level	GL	1.0 μW Max.		Operating drive level 0.5 μW Max.
Frequency tolerance(standard)	$\Delta f/f$	$\pm 20 \times 10^{-6}$, $\pm 50 \times 10^{-6}$	$\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$	Ta=+25 °C, DL=0.1 μW
Peak temperature(frequency)	θT	+25 °C ± 5 °C		
Temperature coefficient(frequency)	a	-0.04 x 10 ⁻⁶ /°C ² Max.		
Load capacitance	C _L	7 pF, 12.5 pF		Please specify
Series resistance	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	
Insulation resistance	IR	500 MΩ Min.		
Aging	fa	$\pm 3 \times 10^{-6}$ /year Max.		Ta=+25 °C ± 3 °C, first year
Shock resistance	S.R.	$\pm 5 \times 10^{-6}$ Max.		100 g dummy (Seiko Epson Standard) drop from 1500 mm height on to the concrete 3 directions 10 times.

External dimensions

(Unit: mm)



Recommended soldering pattern

(Unit: mm)

