

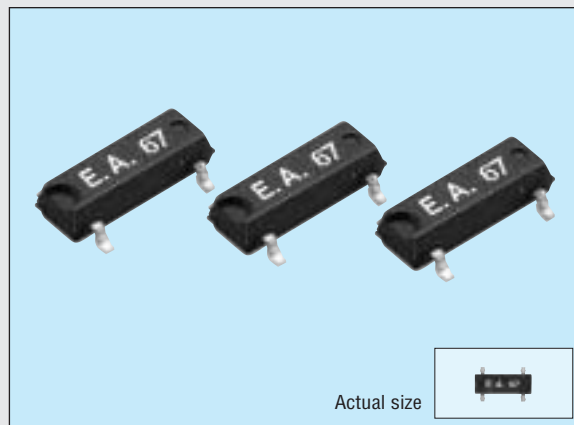
## THIN SMD LOW/MEDIUM-FREQUENCY CRYSTAL UNIT

## MC-206

Product number (please refer to page 1)

Q1xMC206xxx00

- High-density mounting-type SMD of Max. 2.0 mm thickness.
- High heat resistance allows reflow soldering.
- Excellent environmental capability.



## Specifications (characteristics)

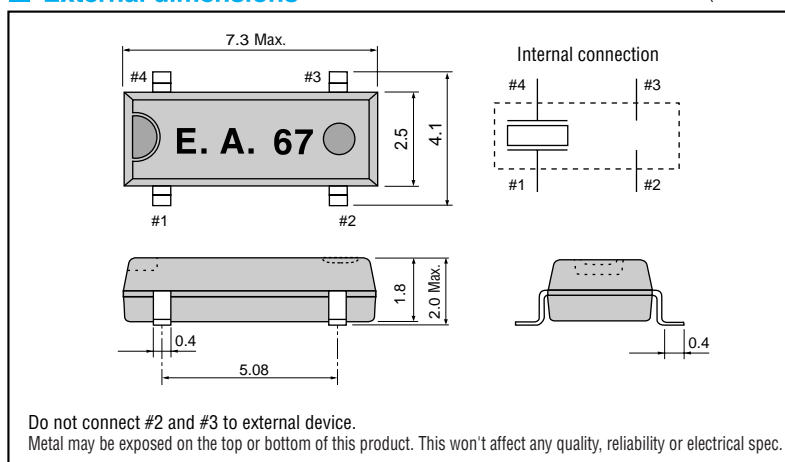
Item		Symbol	Specifications		Remarks
Nominal frequency		f	32.768 kHz	32.000 kHz to 100.000 kHz	
Temperature range	Storage temperature	T <sub>STG</sub>	-55 °C to +125 °C		Stored as bare product after unpacking
	Operating temperature	T <sub>OPR</sub>	-40 °C to +85 °C		
Maximum drive level		GL	1.0 μW Max.		
Frequency tolerance (standard)		Δf/f	±20 × 10 <sup>-6</sup> , ±50 × 10 <sup>-6</sup>	±50 × 10 <sup>-6</sup> , ±100 × 10 <sup>-6</sup>	T <sub>a</sub> =+25 °C, DL=0.1 μW
Peak temperature (frequency)		θT	+25 °C ±5 °C		
Temperature coefficient (frequency)		a	-0.04 × 10 <sup>-6</sup> / °C <sup>2</sup> Max.		
Load capacitance		C <sub>L</sub>	7 pF, 12.5 pF		Please specify
Series resistance		R <sub>1</sub>	55 kΩ Max.	50 kΩ to 20 kΩ	As per below table
Motional capacitance		C <sub>1</sub>	1.8 fF Typ.	3.0 fF Max.	
Shunt capacitance		C <sub>0</sub>	0.9 pF Typ.	1.5 pF Max.	
Insulation resistance		IR	500 MΩ Min.		
Aging		f <sub>a</sub>	±3 × 10 <sup>-6</sup> / year Max.	±5 × 10 <sup>-6</sup> / year Max.	T <sub>a</sub> = +25 °C ±3 °C, first year
Shock resistance		S.R.	±5 × 10 <sup>-6</sup> Max.		Three drops on a hard board from 750 mm or excitation test with 29400 m/s <sup>2</sup> × 0.3 ms × 1/2 sine wave × 3 directions

## Series resistance

Frequency (kHz)	32 ≤ f < 38	38 ≤ f < 65.536	65.536 ≤ f < 75	75 ≤ f ≤ 100
Series resistance (Ω)	50 kΩ Max.	40 kΩ Max.	25 kΩ Max.	20 kΩ Max.

## External dimensions

(Unit: mm)



## Recommended soldering pattern

(Unit: mm)

