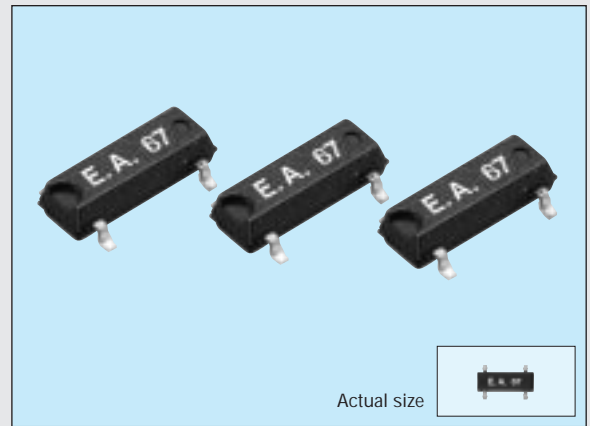


## THIN SMD LOW/MEDIUM-FREQUENCY CRYSTAL UNIT

# MC-206

- High-density mounting-type SMD of max. 2.0mm thickness.
- Small with small packaging area and light weight.
- High heat resistance allows reflow soldering.
- Excellent shock resistance and 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	
Temperature range	Storage temperature	T <sub>STG</sub> -55°C to +125°C		
	Operating temperature	T <sub>OPR</sub> -40°C to +85°C		
Maximum drive level	GL	1.0μW max.		
Soldering condition	T <sub>SOL</sub>	Twice at under 260°C within 10 sec. or under 230°C within 3 min.		
Frequency tolerance (standard)	Δf/f	±20ppm, ±50ppm	±50ppm, ±100ppm	T <sub>a</sub> =25°C, DL=0.1μW
Peak temperature (frequency)	θT	25°C ±5°C		
Temperature coefficient (frequency)	a	-0.04ppm/°C <sup>2</sup> max.		
Load capacitance	C <sub>L</sub>	6pF to ∞		Please specify
Series resistance	R <sub>1</sub>	55 kΩ max.	55 kΩ to 10 kΩ	As per below table
Motional capacitance	C <sub>1</sub>	1.8fF typ.	3.0fF max.	
Shunt capacitance	C <sub>0</sub>	0.9pF typ.	1.5pF max.	
Insulation resistance	IR	500 MΩ min.		
Aging	f <sub>a</sub>	±3ppm/Y max.	±5ppm/Y max.	T <sub>a</sub> =25°C ±3°C, first year
Shock resistance	S.R.	±5ppm max.		Three drops on a hard board from 75 cm or excitation test with 3000G x 0.3ms x 1/2 sine wave x 3 directions

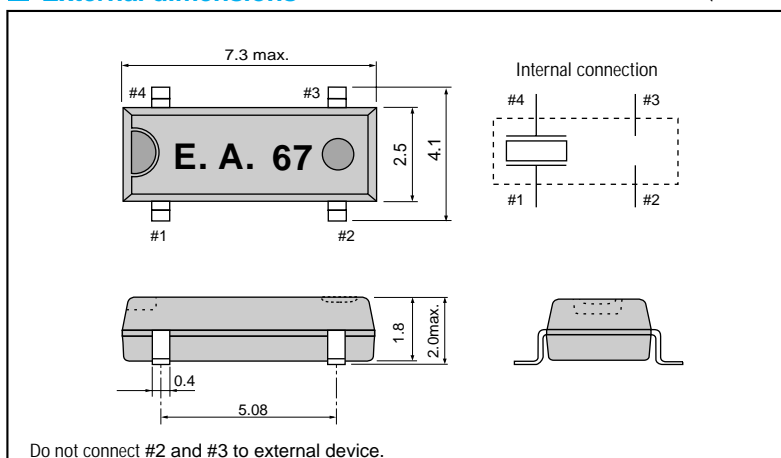
There are some cases that a parts of the cylindrical capsule of quartz unit expose on the surface of the molding material.

### Series resistance

Frequency (kHz)	32 ≤ f < 40	40 ≤ f < 60	60 ≤ f < 70	70 ≤ f ≤ 100
Series resonance resistance (Ω)	55K Ω max.	30K Ω max.	25K Ω max.	22K Ω max.

### External dimensions

(Unit: mm)



### Recommended soldering pattern

(Unit: mm)

