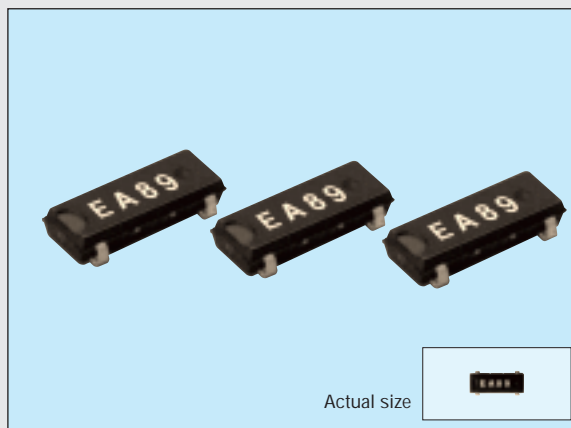


THIN SMD LOW/MEDIUM-FREQUENCY CRYSTAL UNIT

# MC-156

- High-density mounting-type SMD of 1.5mm thickness.
- Small with small packaging area and light weight.
- Excellent environmental capability.
- Most suitable for small communications devices.



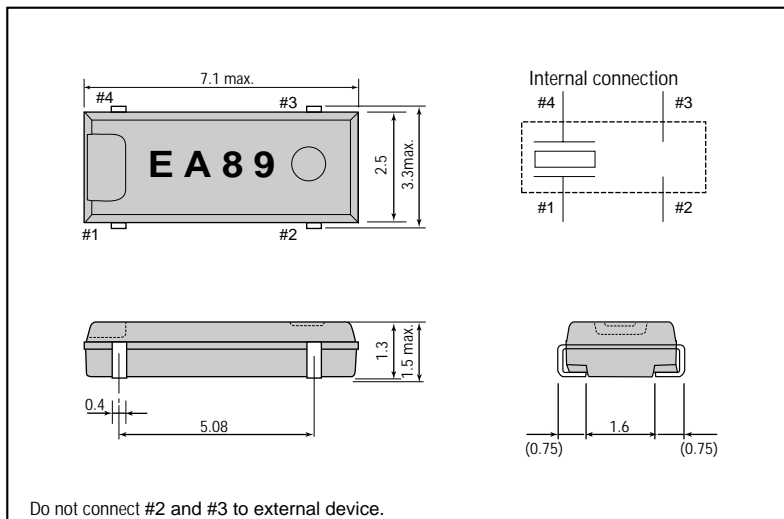
## Specifications (characteristics)

Item	Symbol	Specifications	Remarks
Nominal frequency	f	32.768kHz	please contact us for inquiries about usable frequencies
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.	Operating drive level 0.5μW max.
Soldering condition	T <sub>SO</sub> L	Twice at under 260°C within 10 sec. or under 230°C within 3 min.	
Frequency tolerance(standard)	Δf/f	±20ppm, ±50ppm	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>	7pF	Please consult us for other specification
Series resistance	R <sub>1</sub>	65 kΩ max.	
Motional capacitance	C <sub>1</sub>	1.9fF typ.	
Shunt capacitance	C <sub>0</sub>	0.8pF typ.	
Insulation resistance	IR	500 MΩ min.	
Aging	f <sub>a</sub>	±3ppm/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.

## External dimensions

(Unit: mm)



## Recommended soldering pattern

(Unit: mm)

