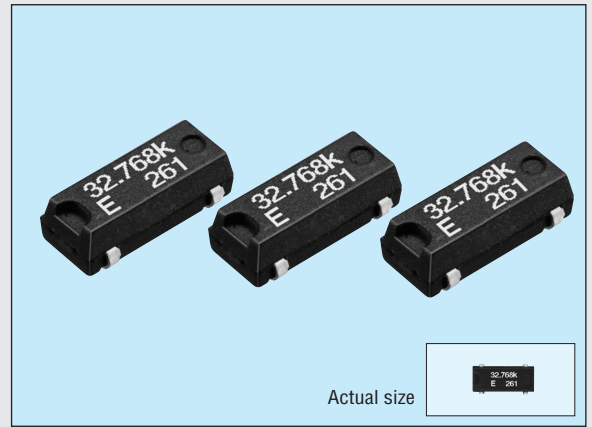


SMALL SMD LOW / MEDIUM-FREQUENCY
CRYSTAL UNIT

MC-306

- High-density mounting-type SMD.
- Photolithography finished allows uniform and stable performance.
- Excellent reliability and environmental capability.



Specifications (characteristics)

Item	Symbol	Specifications		Remarks
Nominal frequency	f	32.768 kHz	20.000 kHz to 165.000 kHz	
Temperature range	Storage temperature	T _{STG}	-55 °C to +125 °C	Stored as bare product after unpacking
	Operating temperature	T _{OPR}	-40 °C to +85 °C	
Maximum drive level	GL	1.0 μW Max.		
Soldering condition	T _{SOL}	Twice at under +260 °C within 10 s or under +230 °C within 3 min.		
Frequency tolerance (standard)	Δf/f	±20 x 10 ⁻⁶ , ±50 x 10 ⁻⁶	±50 x 10 ⁻⁶ , ±100 x 10 ⁻⁶	T _a =+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	6 pF to ∞		Please specify
Series resistance	R ₁	50 kΩ Max.	55 kΩ to 10 kΩ	As per below table
Motional capacitance	C ₁	1.8 fF Typ.	4.0 fF to 0.6 fF	
Shunt capacitance	C ₀	0.9 pF Typ.	2.0 pF to 0.6 pF	
Insulation resistance	IR	500 MΩ Min.		
Aging	f _a	±3 x 10 ⁻⁶ /year Max.	±5 x 10 ⁻⁶ /year Max.	T _a =+25 °C ±3 °C, first year
Shock resistance	S.R.	±5 x 10 ⁻⁶ Max.		Three drops on a hard board from 750 mm or excitation test with 29400 m/s ² x 0.3 ms x 1/2 sine wave x 3 directions

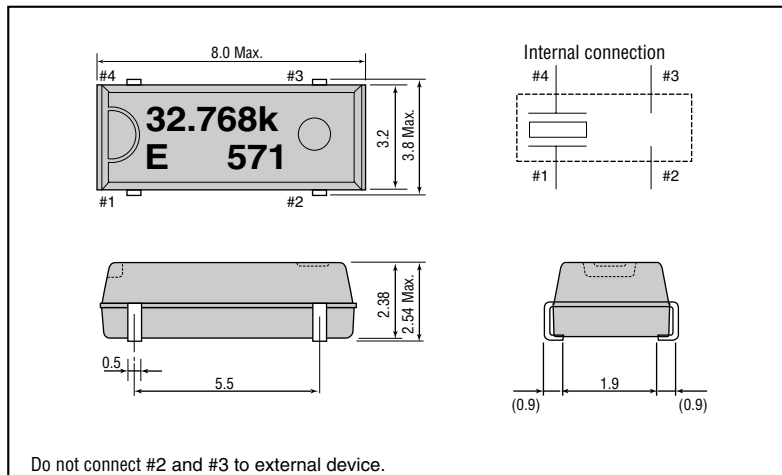
Metal may be exposed on the top of this product. This won't affect any quality, reliability or electrical spec.

Series resistance

Frequency (kHz)	20 ≤ f < 30	30 ≤ f < 40	40 ≤ f < 60	60 ≤ f < 70	70 ≤ f < 120	120 ≤ f < 165
Series resistance (Ω)	55 kΩ Max.	45 kΩ Max.	20 kΩ Max.	15 kΩ Max.	12 kΩ Max.	10 kΩ Max.

External dimensions

(Unit: mm)



Recommended soldering pattern

(Unit: mm)

