

THIN SMD LOW/MEDIUM-FREQUENCY CRYSTAL UNIT

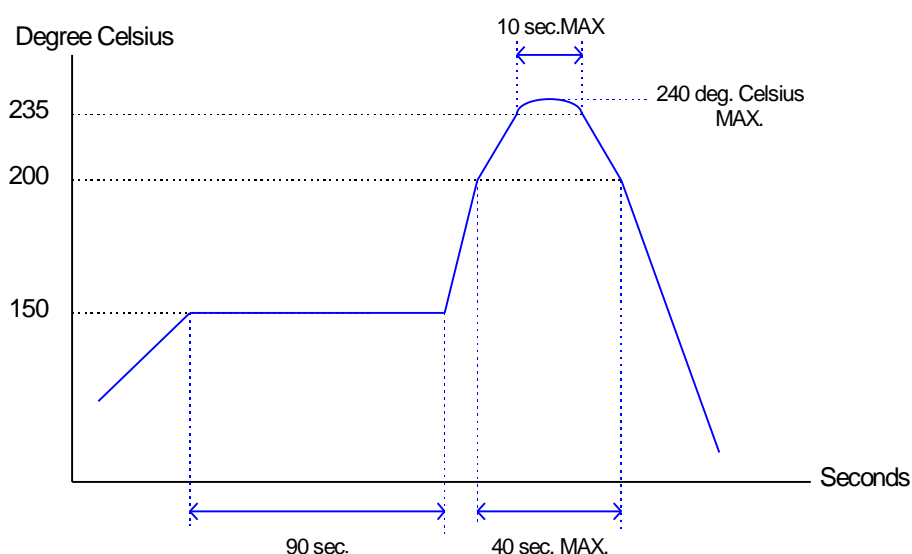
MC - 146

- High-density mounting-type SMD of 1.3 mm thickness
- Small with small packaging area and light weight
- Excellent shock resistance and environmental capability
- Most suitable for small communications devices

■ Specifications(characteristics)

Item	Sym bol	Specifications	Remarks
Nominal frequency	f ₀	32.768KHz	
Storage temperature	T _{STG}	-55°C • ' +125°C	
Operating temperature	T _{OPR}	-40°C • ' +85°C	
Maximum drive level	GL	0.5mW MAX.	
Recommended drive level	DL	0.1mW	
Frequency tolerance	Df / f	± 20ppm • ' • }50ppm	T _a = 25°C , DL=0.1mW
Peak temperature	qT	25°C ± 5°C	
Temperature coefficient	a	-0.04 ppm /°C ² MAX.	
Load capacitance	CL	6pF • ' ∞ (Standard 7pF)	Please specify
Series resistance	R ₁	65 KΩ MAX.	
Insulation resistance	IR	500MΩ MIN.	
Aging	f _a	± 3ppm / Year MAX.	T _a = 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
Soldering condition		± 5ppm MAX.	Refer to below chart.

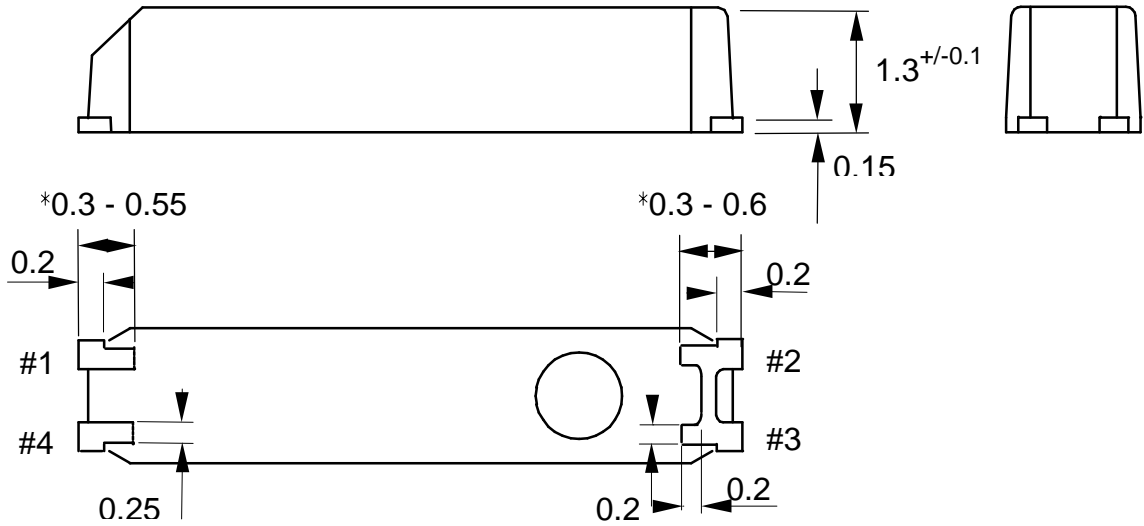
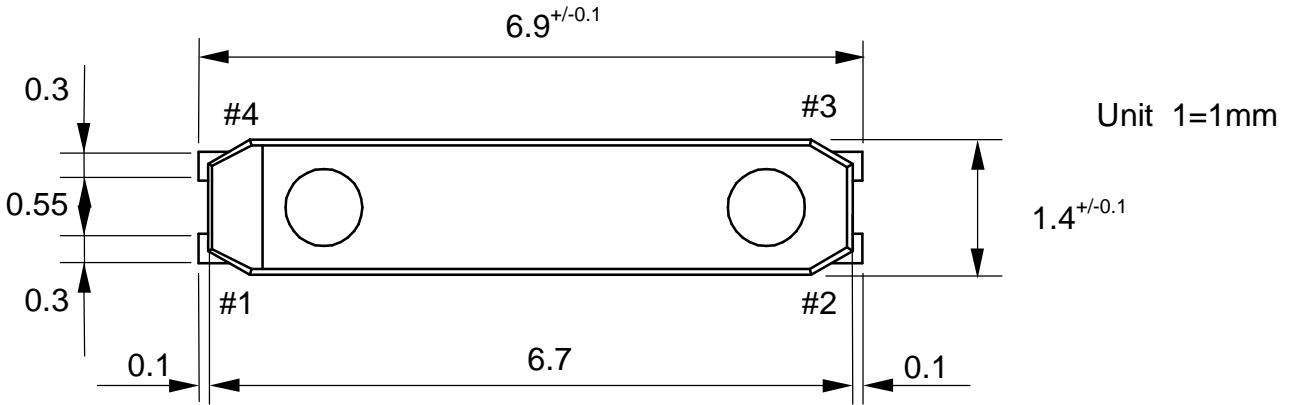
■ Reflow Soldering Condition



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Preliminary

• ; External dimensions

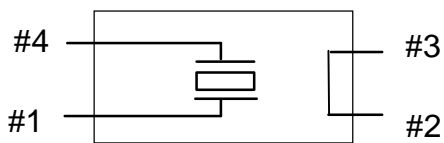


Lead terminals : Solder plating

*Soldering effective area

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

• ; Internal connection



• ; Example of soldering pattern

