

FEATURES

- Plastic mold package incorporated tubular type quartz crystal.
- Suitable for automatic and high density surface mounting.
- Excellent shock and heat resistance.
- RoHS compliant.

APPLICATIONS

- Radio Communication Equipment, Cellular Phones, Camcorders, Portable Applications, Clock Source for Micro-Computers

Under Development

Scheduled to be complete Pb-free in June, 2006

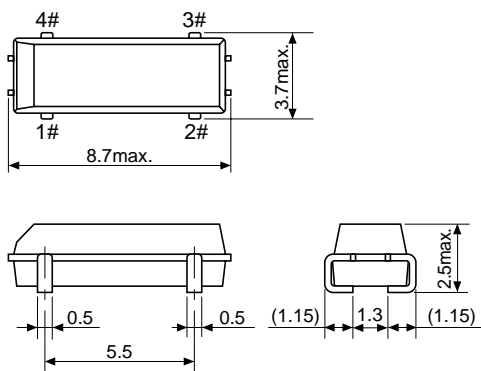
STANDARD SPECIFICATIONS

Conditions without notice (Temperature: $+25\pm 2^{\circ}\text{C}$, DL: $0.1\mu\text{W}$)

Item	Symbol	Specifications		Conditions / Notes
Nominal Frequency	f_nom	32.768kHz	32kHz to 200kHz*	
Frequency Tolerance	f_tol	$\pm 20 \times 10^{-6}$, $\pm 50 \times 10^{-6}$, $\pm 100 \times 10^{-6}$		
Turnover Temperature	Ti	$+25\pm 5^{\circ}\text{C}$	$+25\pm 8^{\circ}\text{C}$	
Parabolic Coefficient	B	$(-3.5\pm 0.8) \times 10^{-8}/^{\circ}\text{C}^2$		
Load Capacitance	C _L	6.0 to 12.5pF		
Motional Resistance (ESR)	R ₁ typ./max.	34k Ω / 50k Ω		
Absolute Maximum Drive Level	DLmax	1 μW		
Level of Drive	DL	0.1 μW		
Shunt Capacitance	C ₀	1.0pF typ.	0.95pF typ.	
Frequency Ageing	f_age	$\pm 5 \times 10^{-6}$		$+25\pm 3^{\circ}\text{C}$, First Year
Operating Temperature	T_use	-40°C to $+85^{\circ}\text{C}$		
Storage Temperature	T_stg	-55°C to $+125^{\circ}\text{C}$		Store a pcs. part

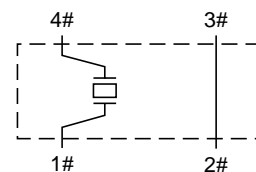
* Please feel free to contact us for inquiries about other frequencies in need.

DIMENSIONS (For details, please refer to individual specification)

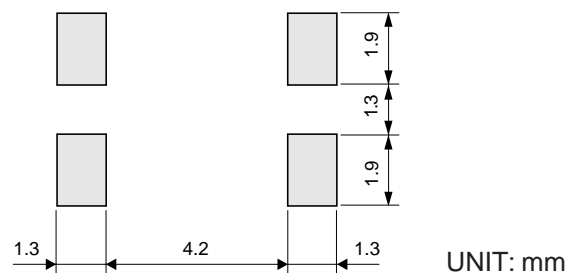


UNIT: mm

INTERNAL LEAD CONNECTION



RECOMMENDED SOLDERING PATTERN



UNIT: mm

- Remarks**
1. Do not connect terminals #2, #3 to external device and GND. These are dummy terminals.
 2. The part of the cylinder inside resin mold may be sometimes exposed, however, it does not affect the characteristics of crystal unit.