

# CMR250T

(2,000pcs/reel)



## ■ FEATURES:

- Because of their excellent shock resistance and low power consumption, the units are ideal for portable equipment.
- Features superior characteristics indigenous to tuning fork-type quartz crystal units.
- Ideal for low cost SMD applications.
- Provided in Tape and Reel.

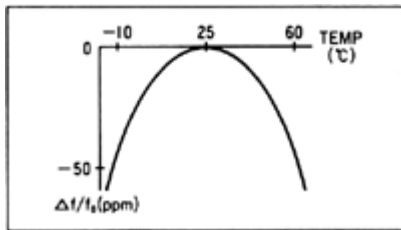
## ■ APPLICATIONS:

- Permits use as a clock source for communication equipment, AV equipment, OA equipment, measuring instruments and pagers.

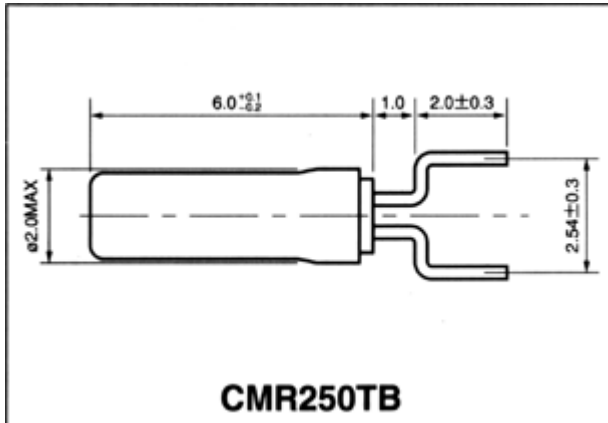
## ■ STANDARD SPECIFICATIONS

Item		CM250T	Conditions
Nominal frequency	$f_0$	30kHz to 165kHz	
Frequency tolerance	$\Delta f/f_0$	$\pm 30\text{ppm}$	At 25°C
Frequency vs. Temperature Characteristics	$\Delta f/f_0$	See drawing	-10°C to +60°C
Turnover temperature	$T_m$	$25^\circ\text{C} \pm 5^\circ\text{C}$	
Temperature coefficient	beta	$-0.034 \pm 0.006\text{ppm}/^\circ\text{C}^2$	
Operating temperature range	$T_{opr}$	-40°C to +85°C	
Storage temperature range	$T_{stg}$	-55°C to +125°C	
Equivalent series resistance	$R_1$	35k ohm to 50k ohm	At 25°C
Load capacitance	$C_L$	12.5pF TYP.	Please specify
Motional capacitance	$C_1$	0.001 to 0.004pF TYP.	
Shunt capacitance	$C_0$	0.8 to 1.7pF TYP.	
Capacitance ratio	gamma	425 to 800 TYP.	
Drive level	DL	1 $\mu\text{W}$ MAX.	
Insulation resistance	IR	500M ohm MIN.	DC100V $\pm 15\text{V}$
Aging (First year)	$\Delta f/f_0$	$\pm 5\text{ppm}$ MAX.	25°C $\pm 3^\circ\text{C}$
Sealing		$1 \times 10^{-2} \mu\text{Pa} \cdot \text{m}^3 / \text{s}$ MAX.	
Shock resistance	$\pm 5\text{ppm}$ MAX. Drop test of 3 times on a hard board from 75cm height or shock test of 3000G x 0.3ms x 1/2sin wave x 3 directions		

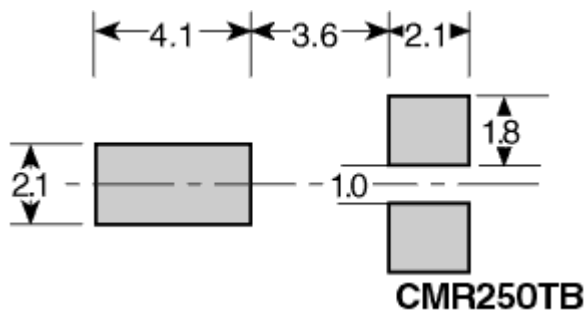
## ■ FREQUENCY vs TEMPERATURE CURVE



■ **DIMENSIONS: (UNIT=mm)**



■ **RECOMENDED SOLDERING PATTERN: (UNIT=mm)**



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