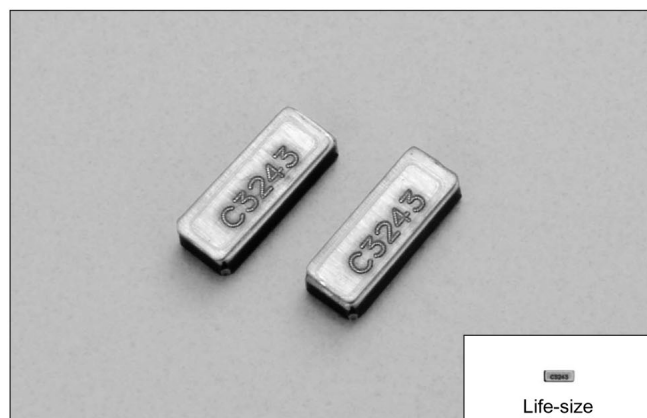


TUNING FORK CRYSTAL UNIT (SMD • Ceramic Package)

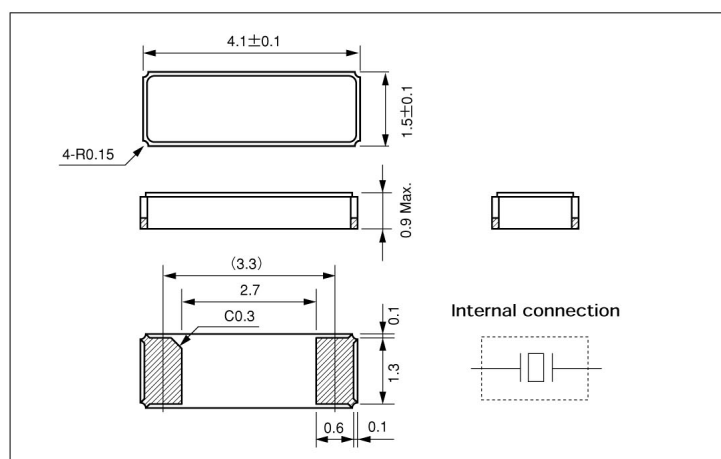
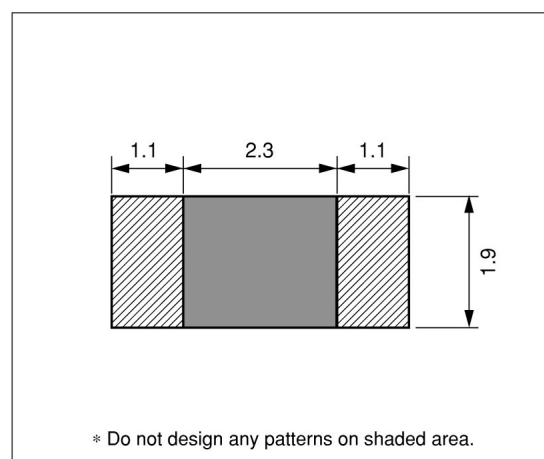
RoHS Compliant Standard

CM415

3000pcs/reel

**FEATURES**

- Tuning fork crystal with ceramic packaged type
High-density SMD type.
- Light weight with small and thin packaging
High-stability assured with tight vacuum sealing.
- Most appropriate for portable devices, automotive applications and mobile telecommunication devices.
- Complete Pb free product.

DIMENSION [mm]**SOLDER PAD LAYOUT [mm]****STANDARD SPECIFICATIONS**

Item	Model	CM415	Conditions
Nominal Frequency	f_0	32.768kHz	
Frequency Tolerance	$\Delta f/f_0$	$\pm 20\text{ppm}$	at 25°C
Load capacitance	C_L	12.5pF	Need to specify your requirement
Operating Temperature Range	T_{OPR}	-40°C ~ +85°C	
Storage Temperature Range	T_{STR}	-55°C ~ +125°C	
Turnover Temperature	T_M	25°C $\pm$ 5°C	See figure 2 in P4
Temperature Coefficient	β	-0.034 $\pm$ 0.006ppm/°C ²	
Motional (series) resistance	R_1	70K Ω Max.	at 25°C
Level of drive	D_L	1 μ W Max.	
Aging (first year)	$\Delta f/f_0$	$\pm 3\text{ppm}$ Max.	25°C $\pm$ 3°C
Quality Factor	Q	53000 Typ.	
Shunt capacitance	C_0	1.05pF Typ.	