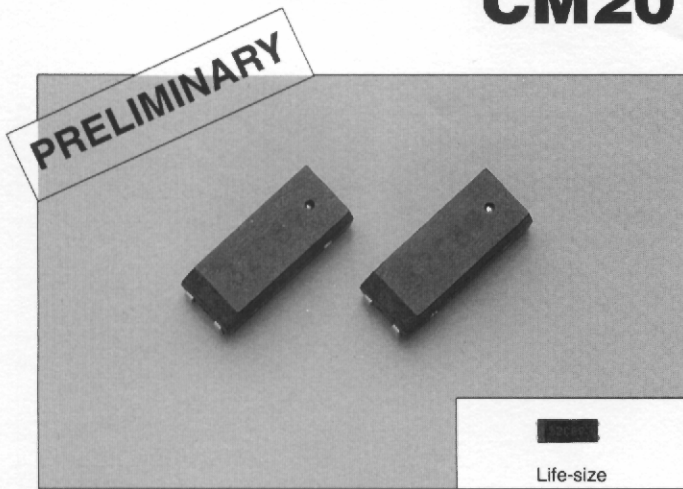


LOW FREQUENCY CRYSTAL (SURFACE MOUNT TYPE)

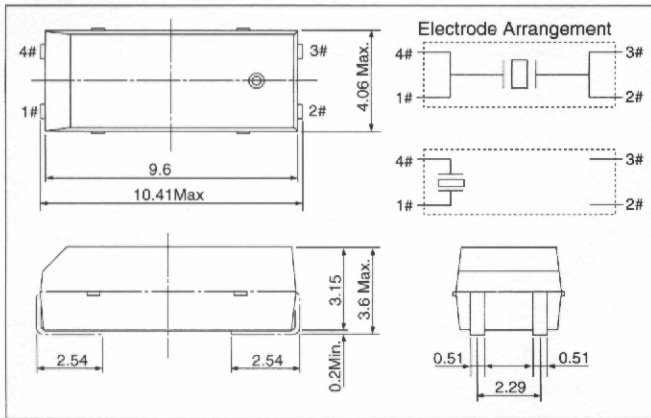
CITIZEN®

CM201/CM202

(2,000pcs/reel)



■ DIMENSIONS: (UNIT=mm)



■ STANDARD SPECIFICATIONS

Item	Model	CM201/CM202	Conditions
Nominal frequency	f_0	32.768kHz	
Frequency tolerance	$\Delta f/f_0$	± 20 ppm	at 25°C
Frequency vs. Temperature characteristics	$\Delta f/f_0$	See drawing	-10°C~+60°C
Turnover temperature	T_m	25°C \pm 5°C	
Freq. temp. coefficient	β	-0.034 \pm 0.006ppm/°C ²	
Operating temperature range	T_{ORP}	-40°C~+85°C	
Storage temperature range	T_{STG}	-55°C~+125°C	Store by one unit
Equivalent series resistance	R_1	50k Ω MAX.	Reference temperature
Load capacitance	C_L	12.5pF TYP.	Please specify
Motional capacitance	C_1	0.003pF TYP.	
Shunt capacitance	C_0	1.65pF TYP. (CM201)/1.45pF TYP. (CM202)	
Capacitance ratio	γ	450 TYP.	
Drive level	DL	1 μ W MAX.	
Insulation resistance	IR	500M Ω MIN.	DC100V \pm 15V
Aging (First year)	$\Delta f/f_0$	± 3 ppm MAX.	25°C \pm 3°C
Sealing		1 x 10 ⁻² μ Pa·m ³ /s MAX.	
Shock resistance		± 5 ppm MAX.	
Drop test of 3 times on a hard board from 75cm height or shock test of 3000G x 0.3ms x 1/2 sin wave x 3 direction			

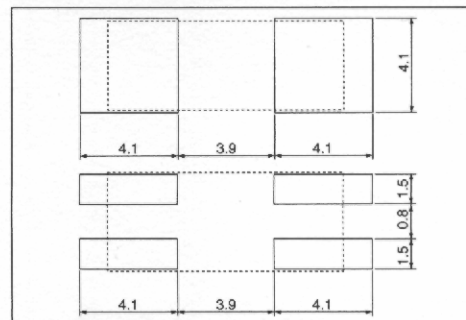
■ FEATURES:

- Being of the ultra-miniature SMD type, and thus featuring excellent efficiency in mounting, the CM201S/CM202S is ideal for application to high-density circuit boards.
- As it incorporates a heat-resisting packaged cylinder-type crystal, it features highly stable characteristics-high enough to permit reflow soldering.
- Can be mounted automatically because of the emboss taping used.
- Its low power consumption makes it ideal for application to portable equipment.

■ APPLICATIONS:

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

■ RECOMMENDED SOLDERING PATTERN: (UNIT=mm)



FREQUENCY vs TEMPERATURE CURVE

