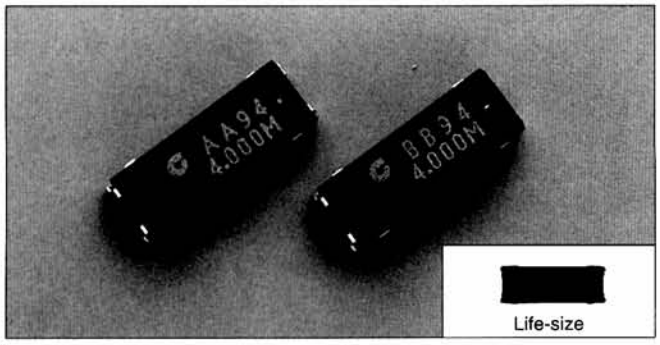
MHz RANGE CRYSTAL UNITS (PLASTIC SURFACE MOUNT TYPE)

CITIZEN

CM309A/CM309B (1,000pcs/reel)



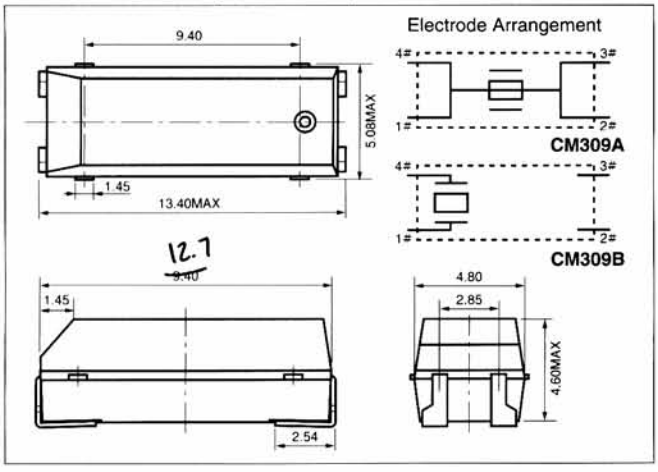
■FEATURES:

- Being of the miniature SMD type and featuring high efficiency in mounting, the CM309S is ideal for application to high-density circuit boards.
- As it incorporates a heat-resisting packaged cylinder-type crystal, this crystal makes best use of the superb characteristic AT-cut crystals have, and permits reflow soldering.
- Enables automatic mounting, due to the adoption of the emboss taping packaging.

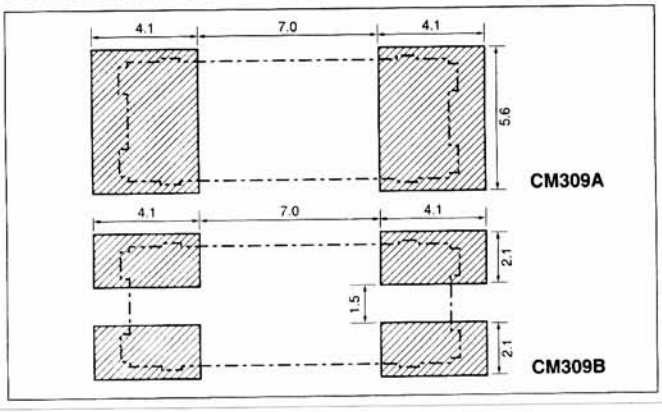
■APPLICATIONS:

- Can be used for a wide range of applications including use in communication equipment, AV equipment, OA equipment and measuring instruments.

■DIMENSIONS: (UNIT=mm)



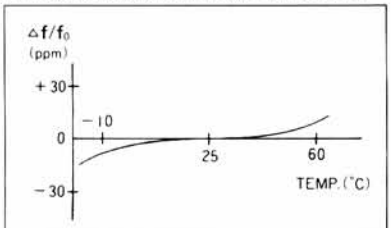
■RECOMMENDED SOLDERING PATTERN: (UNIT=mm)



■STANDARD SPECIFICATIONS

Item \ Model		CM309A/CM309B	Conditions
Nominal frequency	f_0	3.5MHz~32MHz (fund), 30MHz~70MHz (3rd OT)	Please contact us for changes in frequency.
Frequency tolerance	$\triangle f/f_0$	±30ppm or ±50ppm	At 25°C
Frequency vs. Temperature characteristics	$\triangle f/f_0$	±50ppm (±30ppm)	–10°C~+60°C
Operating temperature range	T_{ORP}	–40°C~+85°C	
Storage temperature range	T_{STG}	–55°C~+125°C	
Equivalent series resistance	R_1	See drawing	At 25°C
Load capacitance	C_L	16pFTYP	Please specify
Shunt capacitance	C_0	7.0pF MAX.	
Drive level	DL	50μW~100μW	
Insulation resistance	IR	500MΩ MIN.	DC100V±15V
Aging (First year)	$\triangle f/f_0$	±5ppm MAX.	25°C±3°C
Sealing		1×10^{-2} μPa·m³/s MAX.	
Shock resistance	±5ppm 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 directions		Conditions will vary depending on the frequency.

FREQUENCY vs TEMPERATURE CURVE



EQUIVALENT SERIES RESISTANCE (ESR, R_1)

Frequency	Equivalent series resistance	Mode
3.5MHz≦fo< 4MHz	200	fundamental
4MHz≦fo< 6MHz	150	
6MHz≦fo<10MHz	100	
10MHz≦fo≦32MHz	50	
30MHz<fo<36MHz	100	3rd OT
36MHz≦fo<70MHz	80	

(Ω MAX.)