



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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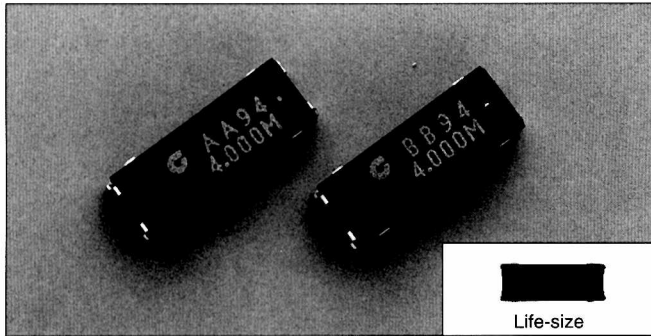
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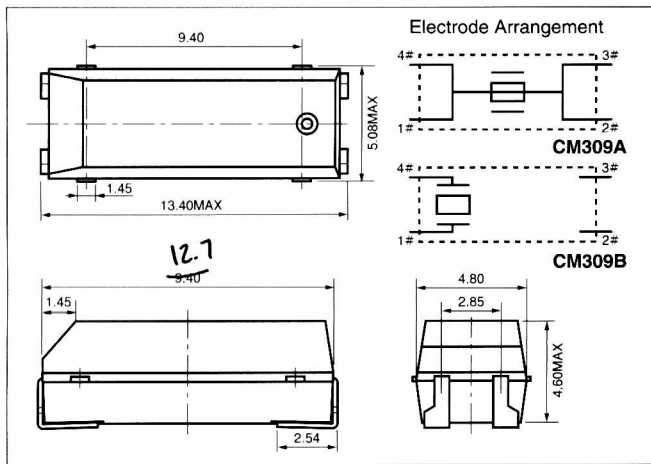


MHz RANGE CRYSTAL UNITS (PLASTIC SURFACE MOUNT TYPE)

CM309A/CM309B (1,000pcs/reel)



■ DIMENSIONS: (UNIT=mm)



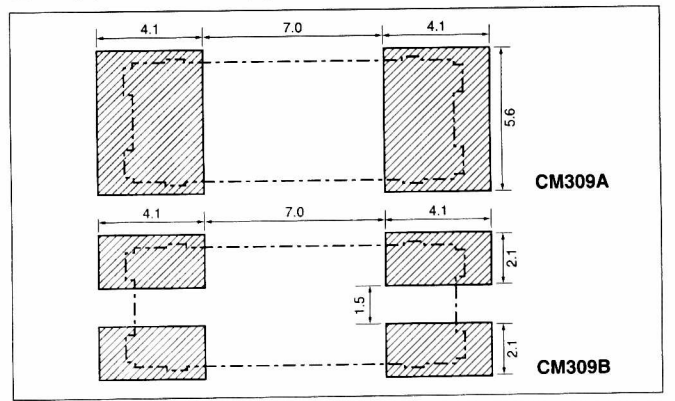
■ FEATURES:

- 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.

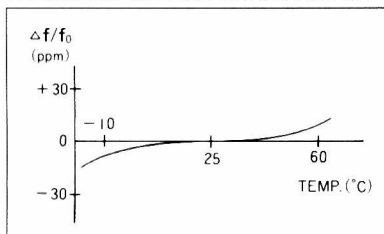
■ RECOMMENDED SOLDERING PATTERN: (UNIT=mm)



■ 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	$\Delta f/f_0$	± 30 ppm or ± 50 ppm	At 25°C
Frequency vs. Temperature characteristics	$\Delta f/f_0$	± 50 ppm (± 30 ppm)	-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	50 μ W~100 μ W	
Insulation resistance	IR	500M Ω MIN.	DC100V \pm 15V
Aging (First year)	$\Delta f/f_0$	± 5 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 directions	Conditions will vary depending on the frequency.

FREQUENCY vs TEMPERATURE CURVE



EQUIVALENT SERIES RESISTANCE (ESR, R₁)

Frequency	Equivalent series resistance	Mode
3.5MHz $\leq f_0 <$ 4MHz	200	fundamental
4MHz $\leq f_0 <$ 6MHz	150	
6MHz $\leq f_0 <$ 10MHz	100	
10MHz $\leq f_0 \leq$ 32MHz	50	
30MHz $< f_0 <$ 36MHz	100	3rd OT
36MHz $\leq f_0 <$ 70MHz	80	

(Ω MAX.)