

## 阅读申明

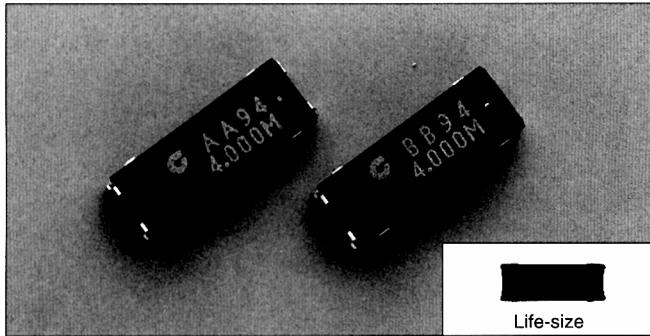
- 1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
- 2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
- 3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描述上的差异，建议读者做出适当判断。
- 4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

## Read Statement

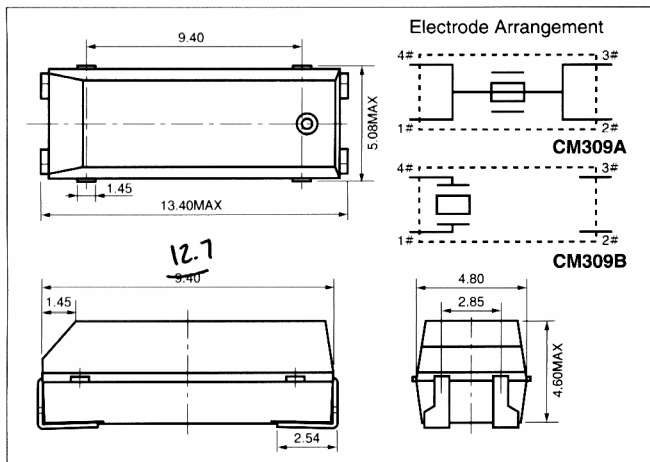
1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.
2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader's learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.
3. All product information provided on the website refer to solutions from manufacturers' technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.
4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with "Datasheets" .

## MHz RANGE CRYSTAL UNITS (PLASTIC SURFACE MOUNT TYPE)

### CM309A/CM309B (1,000pcs/reel)



#### ■ DIMENSIONS: (UNIT=mm)



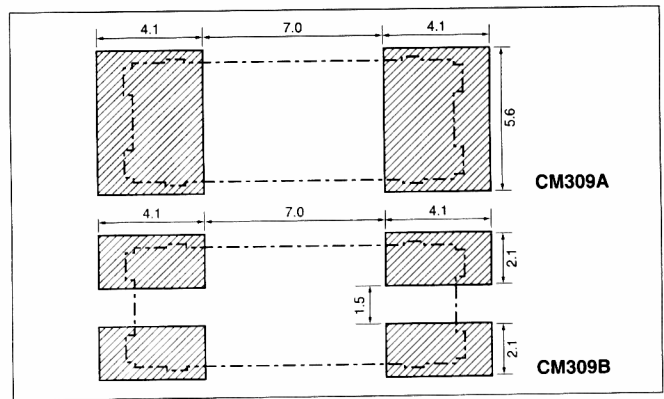
#### ■ FEATURES:

- 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.

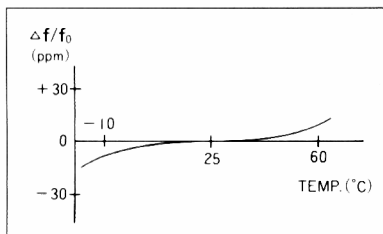
#### ■ RECOMMENDED SOLDERING PATTERN: (UNIT=mm)



#### ■ 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	$\Delta f/f_0$	$\pm 30$ ppm or $\pm 50$ ppm	At 25°C
Frequency vs. Temperature characteristics	$\Delta f/f_0$	$\pm 50$ ppm ( $\pm 30$ 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 $\mu$ W~100 $\mu$ W	
Insulation resistance	IR	500M $\Omega$ MIN.	DC100V $\pm$ 15V
Aging (First year)	$\Delta f/f_0$	$\pm 5$ ppm MAX.	25°C $\pm$ 3°C
Sealing		$1 \times 10^{-2} \mu\text{Pa}\cdot\text{m}^3/\text{s}$ MAX.	
Shock resistance		$\pm 5$ 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, R<sub>1</sub>)

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	

( $\Omega$  MAX.)