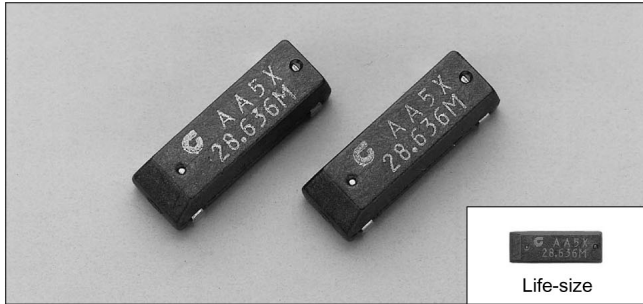


# AT-CUT CRYSTAL UNIT (SMD • Plastic Package)

RoHS Compliant Optional

## CM309S

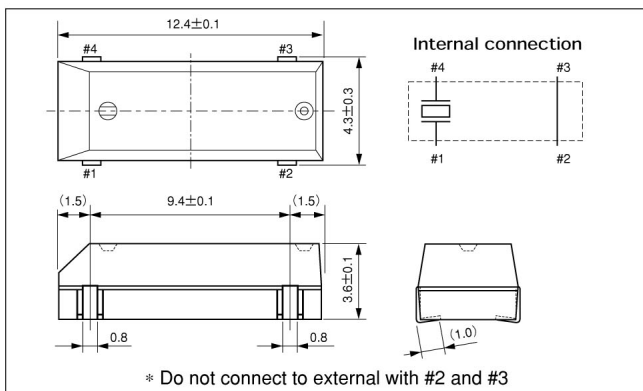
1000pcs/reel



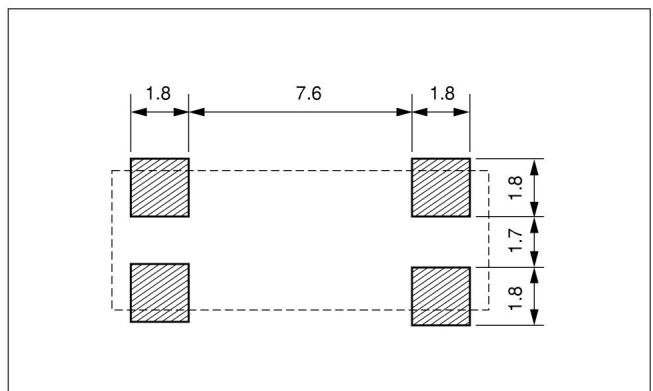
### FEATURES

- Embedded with heat resistant cylinder type crystal bring highly stable characteristics.
- Automatic mounting and reflowable Type.
- Suitable for various applications such as communication devices, AV devices, automotive devices and measuring instruments.

### DIMENSION [mm]



### SOLDER PAD LAYOUT [mm]



### STANDARD SPECIFICATIONS

| Item   | Model             | CM309S                           | Conditions                                     |
|--|-------------------|----------------------------------|--|
| Nominal Frequency                                    | f <sub>0</sub>    | 3.5MHz~30.0MHz (Fundamental)     | Need to contact us for the available frequency |
|  |                   | 30.001MHz~70.0MHz (3rd Overtone) |  |
| Frequency Tolerance                                  | Δf/f <sub>0</sub> | ±30ppm                           | at 25°C  |
| Frequency Tolerance over Operating Temperature Range | Δf/f <sub>0</sub> | ±50ppm                           | -10°C~+60°C                                    |
| Operating Temperature Range                          | T <sub>OPR</sub>  | -40°C~+85°C                      |  |
| Storage Temperature Range                            | T <sub>STR</sub>  | -55°C~+125°C                     |  |
| Motional (series) resistance                         | R <sub>1</sub>    | Refer to the following table     | at 25°C  |
| Load capacitance                                     | C <sub>L</sub>    | 18.0pF                           | Need to specify your requirement               |
| Shunt capacitance                                    | C <sub>0</sub>    | 7.0pF Max.                       |  |
| Level of drive                                       | DL                | 100 μW Max.                      |  |
| Insulation Resistance                                | I <sub>R</sub>    | 500MΩ Min.                       | DC100V±15V                                     |
| Aging (first year)                                   | Δf/f <sub>0</sub> | ±5ppm Max.                       | 25°C±3°C                                       |

### MOTIONAL (SERIES) RESISTANCE (R<sub>1</sub>)

| Frequency Range | 3.5MHz ≤ f <sub>0</sub> < 4.0MHz | 4.0MHz ≤ f <sub>0</sub> < 6.0MHz | 6.0MHz ≤ f <sub>0</sub> < 10MHz | 10MHz ≤ f <sub>0</sub> < 27MHz | 27MHz ≤ f <sub>0</sub> < 36MHz | 36MHz ≤ f <sub>0</sub> ≤ 70MHz |
|-----------------|----------------------------------|----------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Mode            | Fundamental                      | Fundamental                      | Fundamental                     | Fundamental                    | Fundamental<br>3rd Overtone    | 3rd Overtone                   |
| R <sub>1</sub>  | 200 Ω Max.                       | 150 Ω Max.                       | 100 Ω Max.                      | 50 Ω Max.                      | 50 Ω Max.<br>100 Ω Max.        | 80 Ω Max.                      |