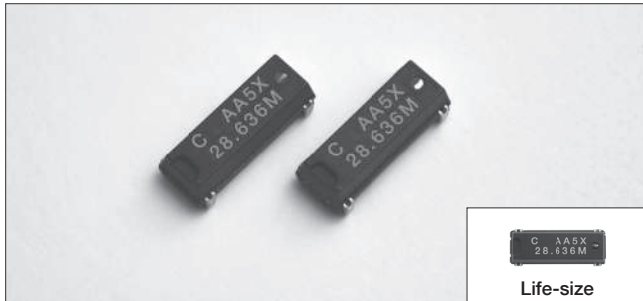


AT-CUT CRYSTAL UNIT (SMD • Plastic Package)

RoHS compliant

CM309E

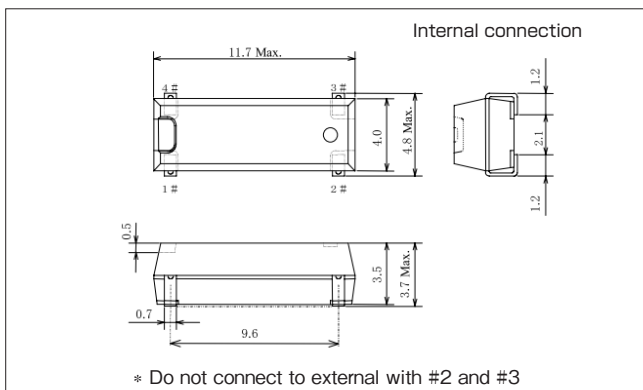
1000pcs/reel



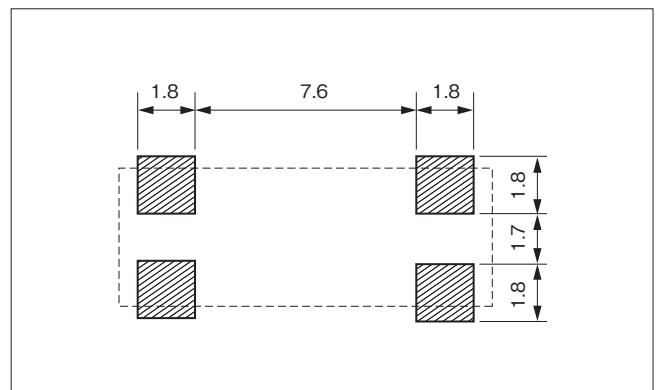
FEATURES

- 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, and measuring instruments.

DIMENSION [mm]



SOLDER PAD LAYOUT [mm]



STANDARD SPECIFICATIONS

Item	Model	CM309E	Conditions
Nominal Frequency	f_0	4.000MHz~29.999MHz (Fundamental)	Need to contact us for the available frequency
		30.000MHz~64.000MHz (3rd Overtone)	
Frequency Tolerance	$\Delta f/f_0$	$\pm 30\text{ppm}$	at 25°C
Frequency Tolerance over Operating Temperature Range	$\Delta f/f_0$	below 5.5MHz: $\pm 50\text{ppm}$	-10°C~+60°C See figure 3 in P4
		above 5.5MHz: $\pm 30\text{ppm}$	
Operating Temperature Range	T_{OPR}	-40°C~+85°C	
Storage Temperature Range	T_{STR}	-55°C~+125°C	
Motional (series) resistance	R_1	Refer to the following table	at 25°C
Load capacitance	C_L	16.0pF, 18.0pF	Need to specify your requirement
Shunt capacitance	C_0	5.0pF Max.	
Level of drive	D_L	100 μW	
Insulation Resistance	I_R	500M Ω Min.	DC100V $\pm$ 15V
Aging (first year)	$\Delta f/f_0$	$\pm 5\text{ppm}$ Max.	25°C $\pm$ 3°C

MOTIONAL (SERIES) RESISTANCE (R_1)

Frequency Range	$4.0\text{MHz} \leq f_0 < 5.5\text{MHz}$	$5.5\text{MHz} \leq f_0 < 6.0\text{MHz}$	$6.0\text{MHz} \leq f_0 < 10.0\text{MHz}$	$10.0\text{MHz} \leq f_0 < 12.0\text{MHz}$	$12.0\text{MHz} \leq f_0 < 16.0\text{MHz}$	$16.0\text{MHz} \leq f_0 < 30.0\text{MHz}$	$30.0\text{MHz} \leq f_0 < 36.0\text{MHz}$	$36.0\text{MHz} \leq f_0 < 64.0\text{MHz}$
Mode	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	3rd Overtone	3rd Overtone
R_1	150 Ω Max.	100 Ω Max.	80 Ω Max.	60 Ω Max.	50 Ω Max.	40 Ω Max.	100 Ω Max.	80 Ω Max.