

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

RoHS compliant

# CM309E

1,000pcs/reel



### ■ FEATURES

- Frequency range : 4.0 ~ 64.0MHz
- External dimensions (mm)  
L : 11.7 x W : 4.8 x H : 3.7
- Applications  
Consumer products

### ■ DIMENSION [mm]



### ■ SOLDER PAD LAYOUT [mm]



### ■ STANDARD SPECIFICATIONS

Item	Model	CM309E	Conditions
Nominal Frequency	$f_0$	4.0MHz ~ 29.999MHz (Fundamental) 30.0MHz ~ 64.0MHz (3rd Overtone)	Please contact us for frequencies available
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: $\pm 50\text{ppm}$ above 5.5MHz: $\pm 30\text{ppm}$	-10°C ~ +60°C
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 / Series	Please specify your requirement
Shunt capacitance	$C_0$	5.0pF Max.	
Level of drive	DL	2mW Max.	
Insulation Resistance	$I_R$	500MΩ 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<sub>1</sub>)

Freq. Range (MHz)	4.0 ≤ f <sub>0</sub> < 5.5	5.5 ≤ f <sub>0</sub> < 6.0	6.0 ≤ f <sub>0</sub> < 10.0	10.0 ≤ f <sub>0</sub> < 12.0	12.0 ≤ f <sub>0</sub> < 16.0	16.0 ≤ f <sub>0</sub> < 30.0	30.0 ≤ f <sub>0</sub> < 36.0	36.0 ≤ f <sub>0</sub> < 64.0
Mode	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	3rd Overtone	3rd Overtone
R <sub>1</sub>	150Ω Max.	100Ω Max.	80Ω Max.	60Ω Max.	50Ω Max.	40Ω Max.	100Ω Max.	80Ω Max.

## ■ PART NUMBERING SYSTEM



\*Please contact us for specifications available.

## ■ Part Marking [standard]



- C AA : Manufacture's ID Code
- y : The last digit of production year
- m : Production month (See Table.1)
- ff.fff : Frequency
- M : MHz

Table.1

Month	Jan	Feb	...	Sep	Oct	Nov	Dec
Code	1	2	...	9	X	Y	Z

## ■ Reflow profile



## ■ Packing



Conforming to JIS C 0806 TB1208NEIAJ and RC-1009B TE1208N



Conforming to JIS C 0806 R12R and EIAJ RC-1009B R15

Q'ty/reel	a	b	c	d(φ)	e	f	g	h	j	k	l	m(φ)	n(φ)
1,000	24.0	11.5	12.0	1.5	11.9	0.4	4.0	5°	4.9	5°	25.5	330	100

Rev.1

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