

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

RoHS compliant

# CM309E

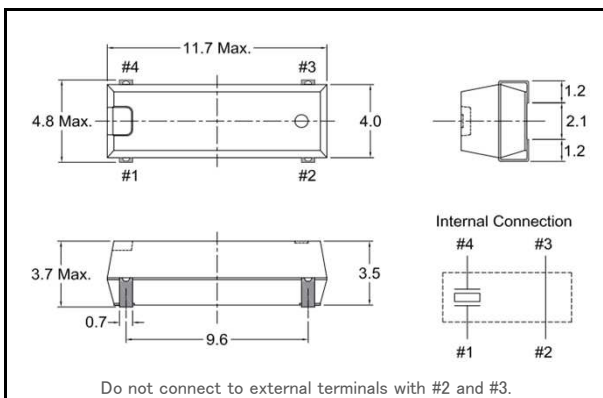
1,000pcs/reel



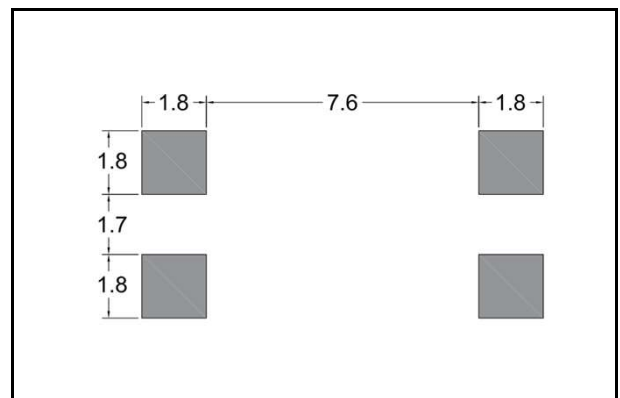
### ■ FEATURES

- 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	$\Delta f/f_0$	$\pm 30$ ppm	at 25°C
Frequency Tolerance over Operating Temperature Range	$\Delta f/f_0$	below 5.5MHz: $\pm 50$ ppm above 5.5MHz: $\pm 30$ 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	100 $\mu$ W	
Insulation Resistance	$I_R$	500M $\Omega$ Min.	DC100V $\pm$ 15V
Aging (first year)	$\Delta f/f_0$	$\pm 5$ ppm Max.	25°C $\pm$ 3°C

### ■ MOTIONAL (SERIES) RESISTANCE ( $R_1$ )

Freq. Range (MHz)	$4.0 \leq f_0 < 5.5$	$5.5 \leq f_0 < 6.0$	$6.0 \leq f_0 < 10.0$	$10.0 \leq f_0 < 12.0$	$12.0 \leq f_0 < 16.0$	$16.0 \leq f_0 < 30.0$	$30.0 \leq f_0 < 36.0$	$36.0 \leq f_0 < 64.0$
Mode	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	Fundamental	3rd Overtone	3rd Overtone
$R_1$	150 $\Omega$ Max.	100 $\Omega$ Max.	80 $\Omega$ Max.	60 $\Omega$ Max.	50 $\Omega$ Max.	40 $\Omega$ Max.	100 $\Omega$ Max.	80 $\Omega$ Max.

## ■ PART NUMBERING SYSTEM



\*Please contact us for specifications available.

## ■ Part Marking [standard]

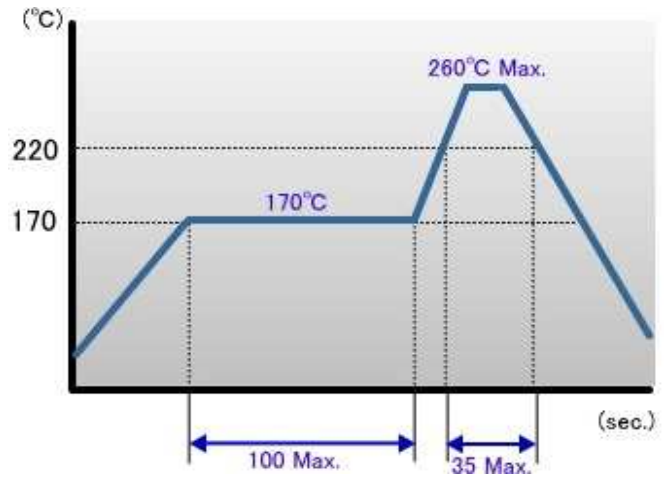


- C AA : Manufacture's ID Code
- y : The last digit of production year
- m : Production month (See Table.1)
- ff.fff : Frequency
- M : MHz

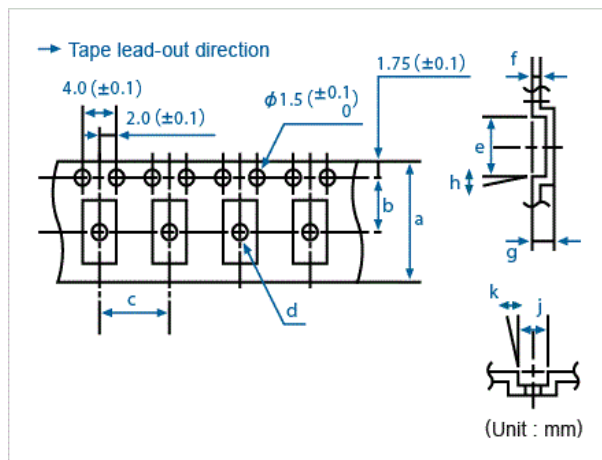
Table.1

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

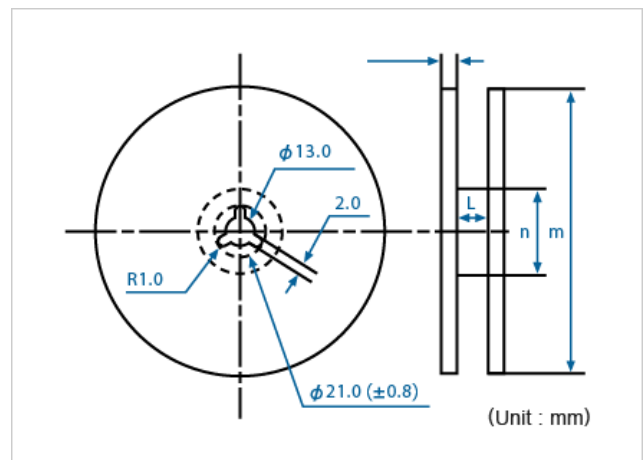
## ■ Reflow profile



## ■ 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

Product specifications are subject to change without notice.

Rev.3