

AT-CUT CRYSTAL UNIT (SMD · Plastic Package)

RoHS compliant

CM309E

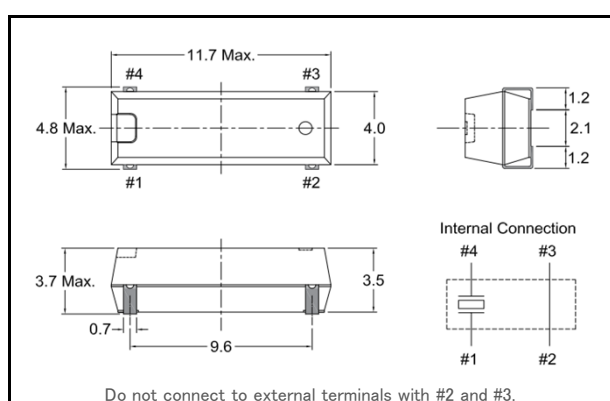
1,000pcs/reel



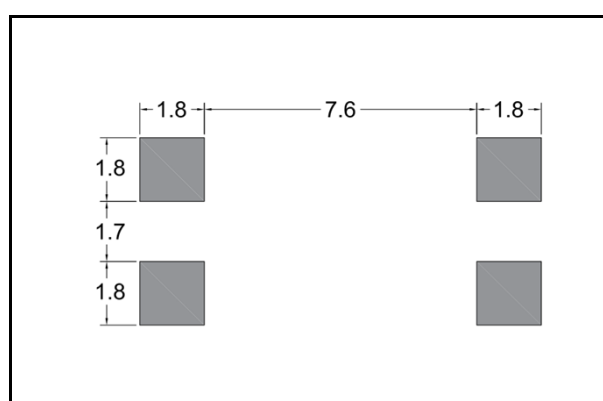
■ FEATURES

- 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]



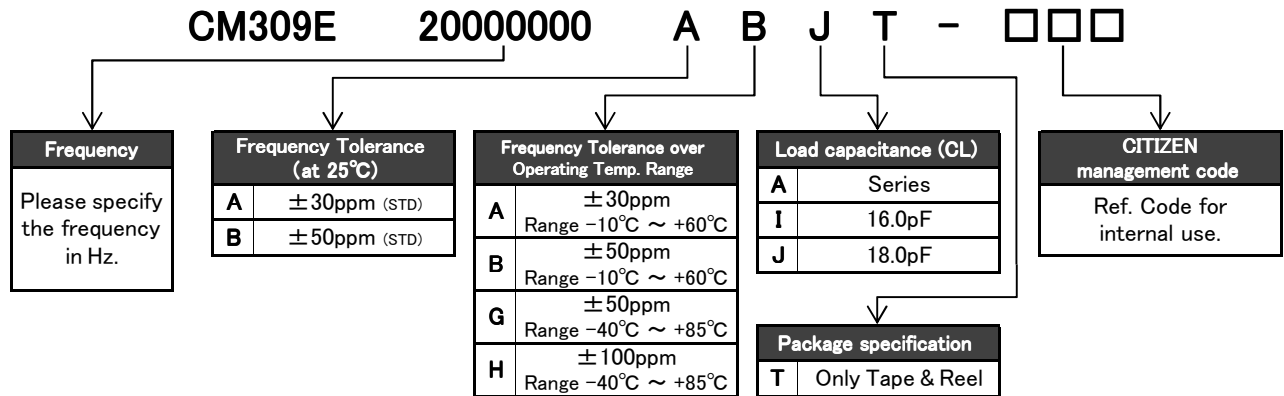
■ STANDARD SPECIFICATIONS

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	D_L	2mW Max.	
Insulation Resistance	I_R	500M Ω Min.	DC100V $\pm 15\text{V}$
Aging (first year)	$\Delta f/f_0$	$\pm 5\text{ppm}$ Max.	25°C $\pm 3^\circ\text{C}$

■ 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 Ω Max.	100 Ω Max.	80 Ω Max.	60 Ω Max.	50 Ω Max.	40 Ω Max.	100 Ω Max.	80 Ω 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)

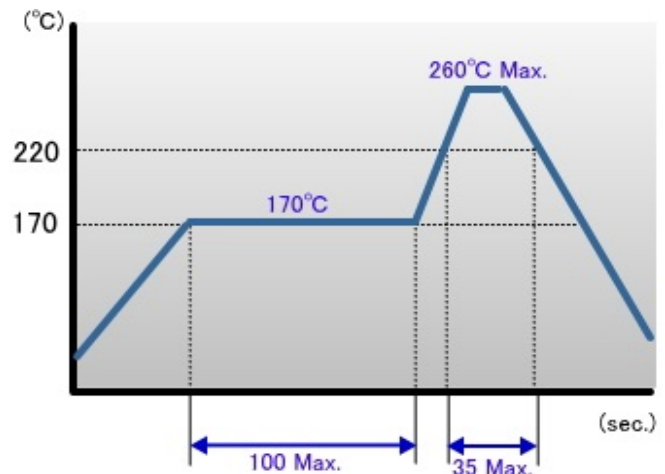
ff.fff : Frequency

M : MHz

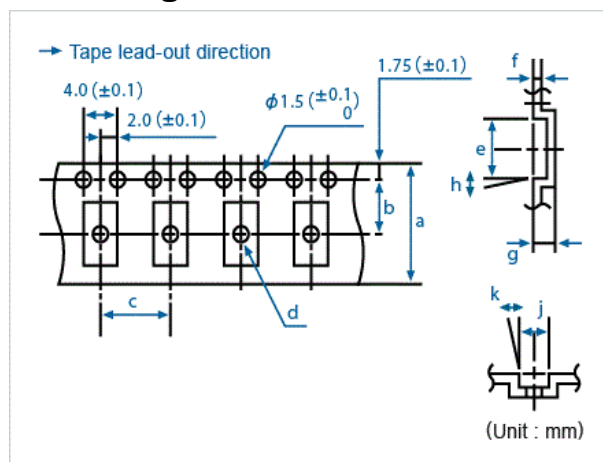
Table.1

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

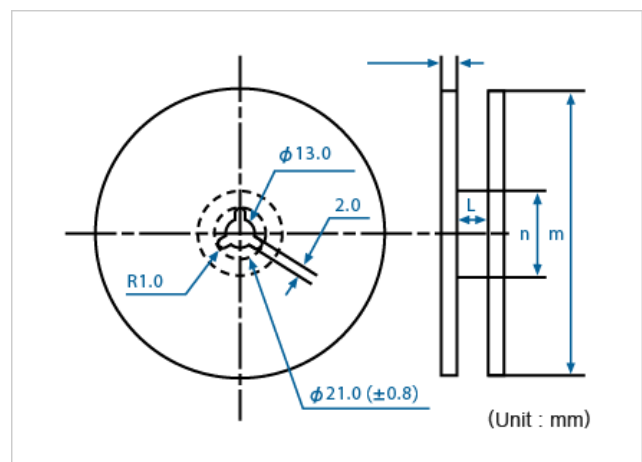
■ Reflow profile



■ 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