

### Features

- Frequency range : 32.768 kHz
- SMD : Ceramic package
- External dimensions (mm)  
L : 3.2 x W : 1.5 x H : 0.75
- RoHS compliant & Pb free

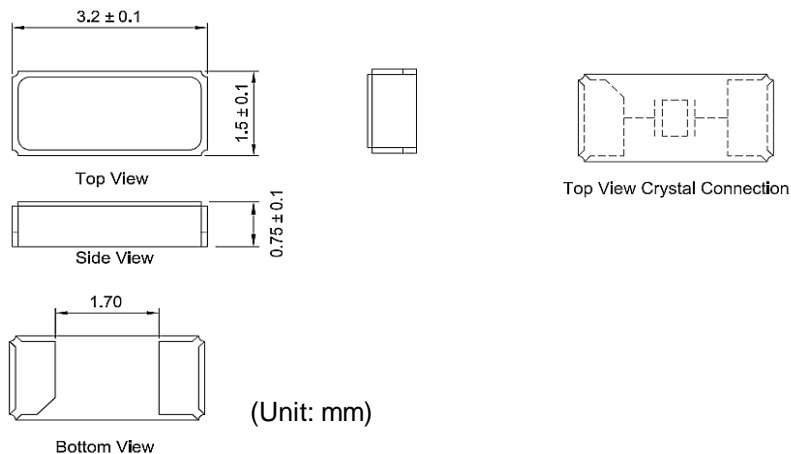
### Applications

- Small mobile devices
- Communication devices
- Consumer products
- Commercial & industrial applications

### Electrical Characteristics

Item	Symbol	QT3C	Conditions
Nominal Frequency	$f_0$	32.768 kHz	
Frequency Tolerance	$\Delta f/f_0$	$\pm 10\text{ppm}$ , $\pm 20\text{ppm}$ , $\pm 30\text{ppm}$ , $\pm 50\text{ppm}$	at 25°C
Load Capacitance	$C_L$	6pF, 7pF, 9pF, 12.5pF	
Operating Temperature Range	$T_{OTR}$	-40°C ~ +85°C	
		-40°C ~ +125°C	
Storage Temperature Range	$T_{STR}$	-55°C ~ +125°C	
Turnover Temperature	$T_M$	25°C $\pm$ 5°C	
Temperature Coefficient	$\beta$	-0.04 ppm/°C <sup>2</sup> Max.	
Motional Capacitance	$C_1$	3.1 fF Typ.	
Motional Resistance (ESR)	$R_1$	70 kΩ Max.	at 25°C
Drive Level	$D_L$	0.1μW Typ. / 1.0μW Max.	
Aging	$\Delta f/f_0$	$\pm 3$ ppm Max.	at 25°C $\pm$ 3°C, first year
Shunt Capacitance	$C_0$	1.0 pF Typ.	

### Dimensions



### Ordering Information

**QT3C - 32.768K D Z F - T**

<b>Frequency Tolerance (at 25°C)</b>		<b>Packaging Method</b>	
B	± 50 ppm	T	Tape & Reel
A	± 30 ppm		
D	± 20 ppm		
E	± 10 ppm		
<b>Operating Temperature Range</b>		<b>Load Capacitance</b>	
Z	-40°C ~ +85°C	B	6 pF
W	-40°C ~ +125°C	Y	7 pF
		C	9 pF
		F	12.5 pF

### Packing

Note:1  
Po

Note:2  
P2

Do

B

E

Note:2  
F

W

A

A

P1

D1

B

B<sub>0</sub>

5'(max)

B-B SECTION

K<sub>0</sub>

5'(max)

A<sub>0</sub>

A<sub>0</sub> = 1.8 ± 0.10 mm  
 B<sub>0</sub> = 3.5 ± 0.10 mm  
 K<sub>0</sub> = 1.0 ± 0.10 mm

A-A SECTION

CARRIER TAPE DIMENSIONS	K1	P0	P1	P2	D0	D1	E	F	10P0	W	T
	-	4	4	2	1.55	1.1	1.75	5.5	40	12	0.25

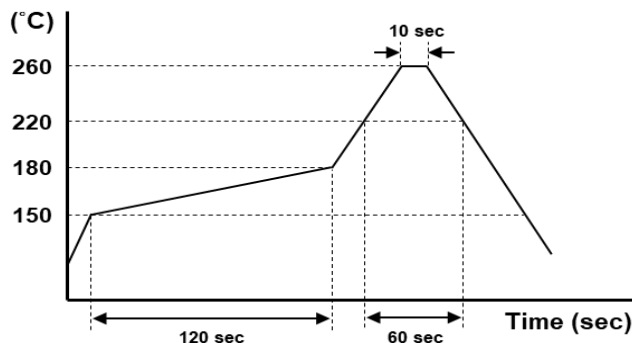
REEL DIMENSIONS	W	W1	L	L1
	16±1.4	13±0.3	180+0/-3	60.2±0.5

φ13.2±0.5

2.5<sup>+0.5</sup><sub>-0</sub>

(Unit: mm)

### Reflow Profile



Total time : Max. 200 sec.  
 Solder melting point : 220°C