

## ■ Features

- ★ Appropriate for high density circuit board
- ★ Highly stable characteristics
- ★ Suitable for small mobile telecommunication devices

## ■ Application

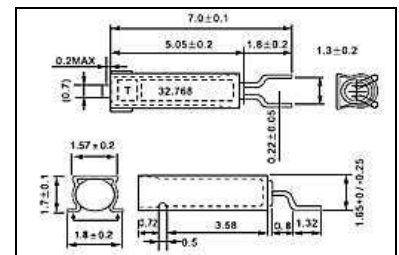
- ★ Watch and Clock
- ★ Remote Control
- ★ Telecommunication equipment
- ★ Consumer Electronics
- ★ Instrumentation
- ★ Audio/Video



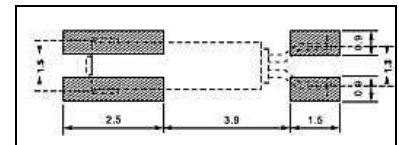
## ■ Specification (Characteristics)

Item	Specification
Frequency Range	32.768 KHz
Load Capacitance	12 pF
Drive Level	1.0 $\mu$ W Max.
Frequency Tolerance	$\pm 5$ ppm ~ $\pm 100$ ppm
Series Resistance	70 K $\Omega$ Max
Turnover Temperature	$25 \pm 5$ $^{\circ}$ C
Temperature Coefficient	$[-0.035 \pm 0.01]$ ppm/ $^{\circ}$ C <sup>2</sup>
Operating Temperature Range	-40 ~ +85 $^{\circ}$ C
Storage Temperature Range	-40 ~ +85 $^{\circ}$ C
Motional Capacitance	0.001 pF Typical
Shunt Capacitance	1.05 pF Typical
C0 / C1 Capacitance Ratio	500 Typical
Aging at first year	$\pm 3$ ppm Max.
Insulation Resistance	500M $\Omega$ Min.
Packing Unit	5000 pcs/reel

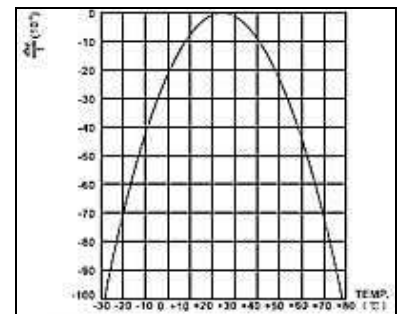
## ■ Dimension (Unit: mm)



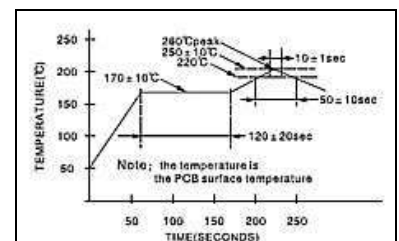
## ■ Recommended Soldering



## ■ Freq. VS. Temp. Curve



## ■ Reflow temperatures Profile



## ■ Part Number and Ordering

Part Number Code	Holder Type + Frequency + Tolerance + CL
Ordering Code	Same as Above
Example	ZMR145BJ-32.768K-20-12.5P