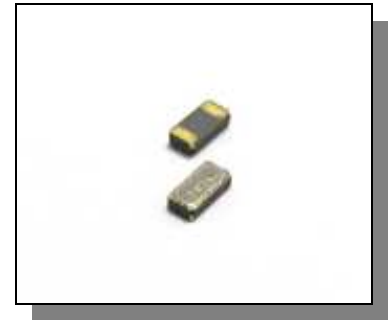


## ■ Features

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

## ■ Application

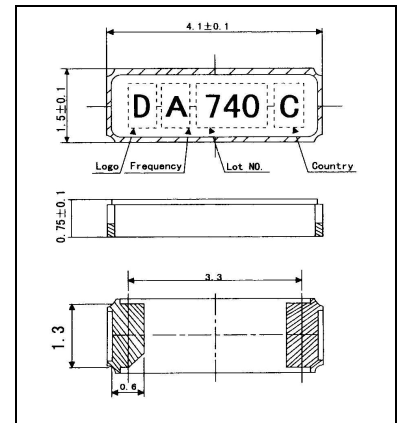
- ★ Watch and Clock
- ★ Remote Control
- ★ Telecommunication equipment
- ★ Consumer Electronics
- ★ Instrumentation
- ★ Audio/Video



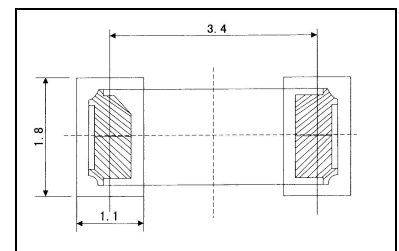
## ■ Specification (Characteristics)

| Item                        | Specification                        |
|-----------------------------|--------------------------------------|
| Frequency Range             | 32.768 KHz                           |
| Load Capacitance            | 7 pF, 9 pF, 12 pF                    |
| Drive Level                 | 0.2 $\mu$ W (1.0 $\mu$ W Max.)       |
| Frequency Tolerance         | $\pm 20$ ppm ~ $\pm 100$ ppm         |
| Series Resistance           | 80 K $\Omega$ Max                    |
| Turnover Temperature        | -25 $\pm$ 5 $^{\circ}$ C             |
| Temperature Coefficient     | -0.04 ppm/ $^{\circ}$ C <sup>2</sup> |
| Operating Temperature Range | -40 ~ +85 $^{\circ}$ C               |
| Storage Temperature Range   | -40 ~ +85 $^{\circ}$ C               |
| Motional Capacitance        | 0.0028 pF Typical                    |
| Shunt Capacitance           | 1.3 pF Typical                       |
| Packing Unit                | 3000 pcs/reel                        |

## ■ Dimension (Unit: mm)



## ■ Recommended Soldering



## ■ Part Number and Ordering

| Part Number Code | Holder Type + Frequency + Tolerance + CL |
|------------------|--|
| Ordering Code    | Same as Above                            |
| Example          | ZM415-32.768K-20-12.5P                   |

## ■ Internal Connections

