

## kHz Range Crystal Devices

## Crystal Units

## Surface Mount Type: Tuning Fork ST3215SB



3.2×1.5mm for Consumer/ Mobile Equipment/ Automotive



RoHS Compliant

## Features

- Small, Low Profile
- Ceramic Package
- Reflow Compatible
- AEC-Q200 qualified

## Applications

- Consumer/ Mobile Equipment
- Car navigation system
- Car audio system

## How to Order

ST3215SB 32768 □□ □ □ □ □ □ □

① ② ③ ④ ⑤ ⑥ ⑦

① Series

② Frequency  
32.768kHz

③ Load Capacitance

④ Frequency Tolerance

|           |         |      |
|-----------|---------|------|
| <b>H5</b> | 12.5 pF | Std. |
| <b>E0</b> | 9.0 pF  |      |
| <b>C0</b> | 7.0 pF  |      |
| <b>B0</b> | 6.0 pF  |      |
| <b>A0</b> | 5.0 pF  |      |
| <b>Z0</b> | 4.0 pF  |      |

|          |                         |
|----------|-------------------------|
| <b>F</b> | $\pm 10 \times 10^{-6}$ |
| <b>H</b> | $\pm 20 \times 10^{-6}$ |

⑤ Operating Temp. Range

⑥ Frequency Temp. Stability

|          |              |
|----------|--------------|
| <b>P</b> | -40 to +85°C |
|----------|--------------|

|          |                          |
|----------|--------------------------|
| <b>W</b> | $\pm 200 \times 10^{-6}$ |
|----------|--------------------------|

⑦ Individual Specification

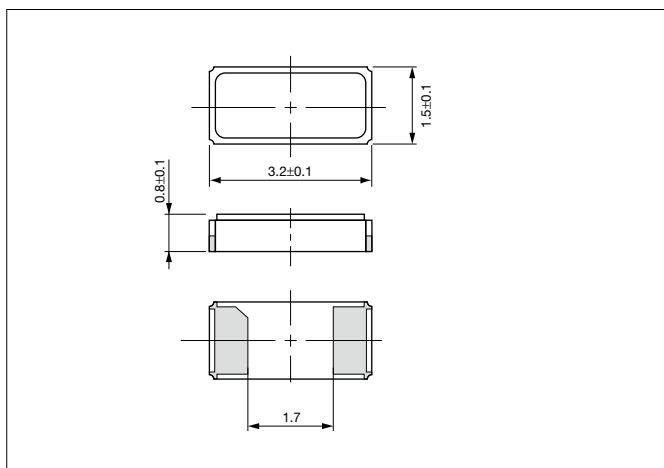
Packaging (Tape &amp; Reel 3000/ 10000 pcs./ reel)

## Specifications

| Item                  | Symbol           | Specification                 | Units                              | Remarks           |
|-----------------------|------------------|-------------------------------|------------------------------------|-------------------|
| Nominal Frequency     | f <sub>nom</sub> | 32.768                        | kHz                                |                   |
| Frequency Tolerance   | f <sub>tol</sub> | ±10, ±20                      | ×10 <sup>-6</sup>                  | 25°C±3°C          |
| Turnover Temperature  | T <sub>i</sub>   | +25±5                         | °C                                 |                   |
| Parabolic Coefficient | B                | -0.04 max.                    | ×10 <sup>-6</sup> /°C <sup>2</sup> |                   |
| Motional Resistance   | R <sub>1</sub>   | 70 max.                       | k-ohm                              |                   |
| Motional Capacitance  | C <sub>1</sub>   | 3.7 typ.                      | fF                                 |                   |
| Shunt Capacitance     | C <sub>0</sub>   | 0.9 typ.                      | pF                                 |                   |
| Load Capacitance      | CL               | 4.0/ 5.0/ 6.0/ 7.0/ 9.0/ 12.5 | pF                                 | Please contact us |
| Drive Level           | DL               | 0.1                           | μW                                 | 0.5 max.          |
| Operating Temp. Range | T <sub>use</sub> | -40 to +85                    | °C                                 |                   |
| Storage Temp. Range   | T <sub>stg</sub> | -55 to +85                    | °C                                 |                   |
| Frequency Aging       | f <sub>age</sub> | ±3                            | ×10 <sup>-6</sup>                  |                   |

## Dimensions

(Unit: mm)



## Recommended Land Pattern

(Unit: mm)

