

Crystal Clock Oscillator

NZ2520S Series

(32.768kHz)

Model name

NZ2520SB Overall frequency tolerance of $\pm 30 \times 10^{-6}$.

Application

For Mobile Phone, Tablet computer, and automobile audio equipment, etc)



Pb
Free

RoHS Compliant
Directive 2011/65/EU

Features

- Compact and light. Dimensions : 2.5 x 2.0 x 0.9 mm, weight : 0.02 g.
- This product applied AT-cut crystal blank which has a superior frequency stability. So, narrow deviation ($\pm 30 \times 10^{-6}$) and quick oscillation start up time (1ms typ) are available.

Absolute maximum rating
Supply voltage (V_{CC}) -0.3 to $+7.0$ V
Storage temperature range -55 to $+125$ °C

Specifications

| Item | | Model | NZ2520SB | | |
|--------------------------------|--------------------------|----------------------|--|------------------|------------------|
| Output level | | | CMOS | | |
| Nominal frequency range *1 | | (kHz) | 32.768 | | |
| Operating temperature range *2 | | (°C) | -40 to +85 | | |
| Overall frequency tolerance | | ($\times 10^{-6}$) | ± 30 | | |
| Supply voltage (V_{CC}) | | (V) | 1.8 | 2.5 | 3.3 |
| Current consumption max | During operation (25 °C) | (mA) | 0.22 (0.11 typ.) | 0.24 (0.12 typ.) | 0.26 (0.13 typ.) |
| | During standby | (μ A) | 10 | | |
| V_{OL} max/ V_{OH} min | | (V) | 0.1 V_{CC} /0.9 V_{CC} | | |
| Tr max/Tf max | | (ns) | 200/200 (at 0.1 V_{CC} to 0.9 V_{CC}) | | |
| Symmetry min. to max. | | (%) | 45 to 55 (at 0.5 V_{CC}) | | |
| Load (C_L) max | | (pF) | 15 | | |
| Start-up time max | | (ms) | 5 | | |
| Frequency aging max | | ($\times 10^{-6}$) | ± 5 (+25°C, First year) | | |
| Standby function | | | Available (Three-state) | | |

*1: If you require a product with a frequency not given above, please contact us.

*2: If you require a product with an operating temperature range not given above, please contact us.

List of Codes for Placing an Order

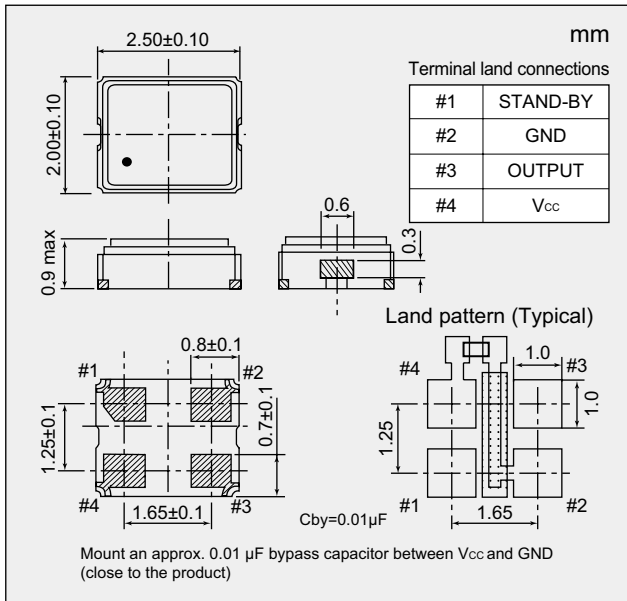
| List of Codes for Placing an Order (The purchase order number differs according to the difference in supply voltage.) | | NSA3534C | NSA3535C | NSA3536C |
|--|-----|-----------------|-----------------|-----------------|
| Supply voltage (V_{CC}) | (V) | +1.8 \pm 0.18 | +2.5 \pm 0.25 | +3.3 \pm 0.33 |

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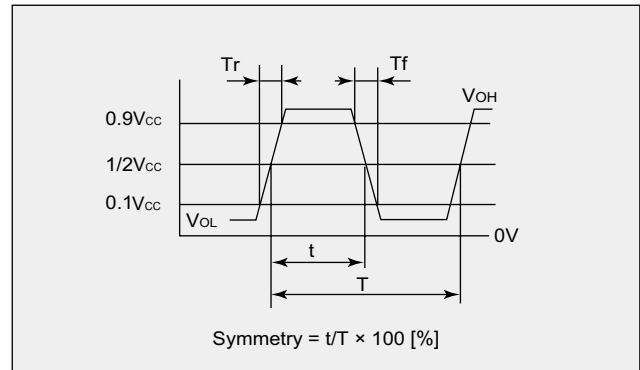
NZ2520S Series

(32.768kHz)

■ Dimensions



■ Output Waveform <CMOS>



■ Standby Function

| #1 Input | #3 Output |
|---|-----------------------|
| Level H ($0.7 V_{CC} \leq V_{IH} \leq V_{CC}$) or OPEN is selected. | Oscillation output ON |
| Level L ($V_{IL} \leq 0.3 V_{CC}$) is selected. | High impedance |

■ How to Specify an Order

When ordering our products, specify them with an "Ordering Code" that consists of the following:

Model name – Frequency (up to 9 digits) k – Number for specifying an order

Example 1: When ordering a product with model name: NZ2520SB, frequency: 32.768kHz, overall frequency tolerance: $\pm 30 \times 10^{-6}$, and supply voltage: 1.8 V

Ordering Code: NZ2520SB – 32.768000K – NSA3534C

Example 2: When ordering a product with model name: NZ2520SB, frequency: 32.768kHz, overall frequency tolerance: $\pm 30 \times 10^{-6}$, and supply voltage: 3.3 V

Ordering Code: NZ2520SB – 32.768000K – NSA3536C

If you have any queries concerning our standard frequencies and numbers for specifying orders, please contact our sales representatives or visit our homepage (<http://www.ndk.com/>).