

## NZ2520S Series

### Model name

NZ2520SB Overall frequency tolerance of  $\pm 100 \times 10^{-6}$ .

### Application

- For compact mobile information equipment, such as DVC, DSC, notebook PC, and PDA



Pb Free

RoHS Compliant  
Directive 2002/95/EC

### Features

- Compact and light. Dimensions : 2.5 x 2.0 x 0.9 mm, weight : 0.02 g.
- This crystal clock oscillator can support low frequencies (from 1.5 MHz); an achievement not easy for other crystal oscillators of the same size to equal.
- Automatic mounting by taping and IR reflow (lead-free) are possible.
- Lead-free.

Absolute maximum rating  
Supply voltage ( $V_{DD}$ )  $-0.5$  to  $+4.0$  V  
Storage temperature range  $-55$  to  $+125$  °C

### Specifications

Item		Model	NZ2520SB							
Output level			CMOS							
Nominal frequency range <sup>*1</sup>		(MHz)	$1.5 \leq F < 10$	$10 \leq F < 20$	$20 \leq F < 30$	$30 \leq F < 40$	$40 \leq F < 50$	$50 \leq F < 60$	$60 \leq F < 70$	$70 \leq F \leq 80$
Operating temperature range <sup>*2</sup>		(°C)	$-20$ to $+70$							
Overall frequency tolerance		( $\times 10^{-6}$ )	$\pm 100$							
Current consumption max	During operation	+1.8 V, 25 °C	2.5	3.5	4.0	4.5	5.0	5.5	6.0	6.5
		+2.5 V, 25 °C	3.0	4.0	4.5	5.0	5.5	6.0	6.5	7.0
		+3.0 V, 25 °C	3.5	4.5	5.0	5.5	6.0	6.5	7.5	8.5
	During standby	+1.8 V to +3.3 V, 25 °C	( $\mu$ A)	10						
$V_{OL\ max}/V_{OH\ min}$		(V)	$0.1 V_{DD}/0.9 V_{DD}$							
$T_r\ max/T_f\ max$		(ns)	5/5							
Symmetry min. to max.		(%)	45 to 55							
Load ( $C_L$ ) max		(pF)	15							
Start-up time max		(ms)	4							
Standby function			Available (tristate)							

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

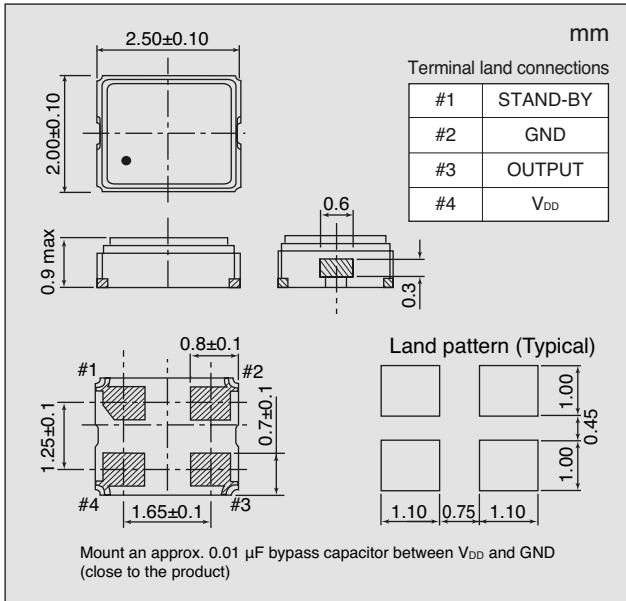
\*2: If you require a product with an operating temperature range not given above, please contact us.

### List of Codes for Placing an Order

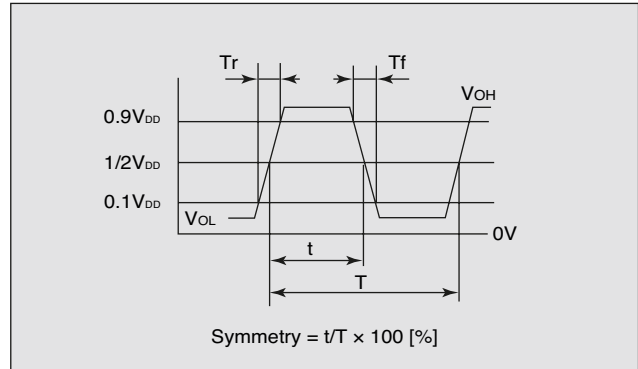
List of Codes for Placing an Order (The purchase order number differs according to the difference in supply voltage.)		NSA3412A	NSA3413A	NSA3414A	NSA3415A
Supply voltage	(V)	$+1.8 \pm 0.18$	$+2.5 \pm 0.25$	$+3.0 \pm 0.3$	$+3.3 \pm 0.33$

## NZ2520S Series

### ■ Dimensions



### ■ Output Waveform <CMOS>



### ■ Standby Function

#1 Input	#3 Output
Level H ( $0.7 V_{DD} \leq V_{IH} \leq V_{DD}$ ) or OPEN is selected.	Oscillation output ON
Level L ( $V_{IL} \leq 0.3 V_{DD}$ ) 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) M – Number for specifying an order

Example 1: When ordering a product with model name: NZ2520SB, frequency: 20 MHz, overall frequency tolerance:  $\pm 100 \times 10^{-6}$ , and supply voltage: 1.8 V

Ordering Code: NZ2520SB – 20.000000M – NSA3412A

Example 2: When ordering a product with model name: NZ2520SB, frequency: 20 MHz, overall frequency tolerance:  $\pm 100 \times 10^{-6}$ , and supply voltage: 3.3 V

Ordering Code: NZ2520SB – 20.000000M – NSA3415A

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/>).