Crystal Clock Oscillator

Crystal Bridge to the Future

NZ2520S Series

■ Model name

NZ2520SB Overall frequency tolerance of ±30 x 10^{-6}.

Pb Free

RoHS Compliant
Directive 2011/65/EU

■ Application

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

■ 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_{CC}) –0.5 to +4.0 V
Storage temperature range –55 to +125 °C

■ Specifications

Item			Model	NZ2520SB							
Output level				CMOS							
Nominal frequency range *1			(MHz)	1.5 ≤ F < 10	10 ≤ F < 20	20 ≤ F < 30	30 ≤ F < 40	40 ≤ F < 50	50 ≤ F < 60	60 ≤ F < 70	70 ≤ F ≤ 80
Operating temperature range *2			(°C)	–10 to +70							
Overall frequency tolerance			(×10^{-6})	±30							
Current consumption max	During operation	+1.8 V, 25 °C	(mA)	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
		+3.3 V, 25 °C		3.5	4.5	5.0	5.5	6.0	7.0	8.0	9.0
	During standby	+1.8 V to +3.3 V, 25 °C	(µA)	10							
V_{OL} max/V_{OH} min			(V)	0.1 V_{CC}/0.9 V_{CC}							
Tr max/Tf 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 (Three-state)							

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

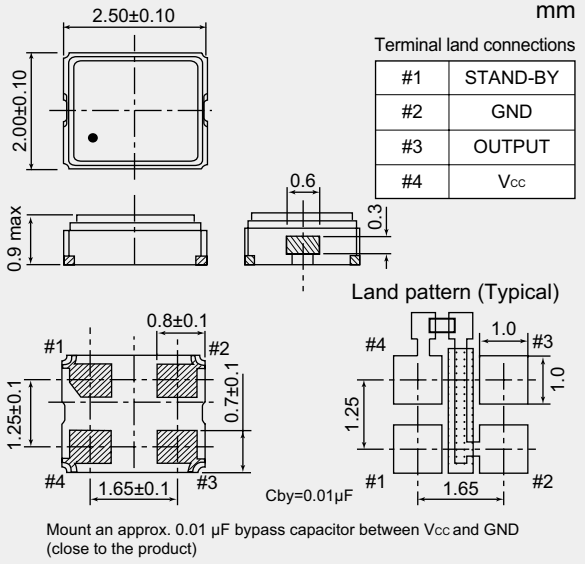
*2: If you require a product with an operating temperature range not given above, please contact us.

■ List of Codes for Placing an Order

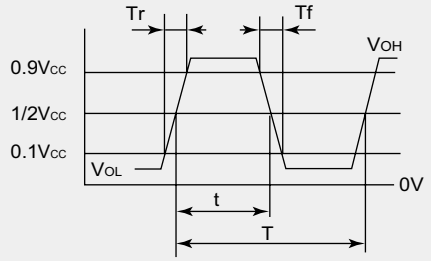
List of Codes for Placing an Order (The purchase order number differs according to the difference in supply voltage.)		NSA3412C	NSA3413C	NSA3414C	NSA3415C
Supply voltage (V_{CC})	(V)	+1.8±0.18	+2.5±0.25	+3.0±0.3	+3.3±0.33

NZ2520S Series

■ Dimensions



■ Output Waveform <CMOS>



Symmetry = t/T × 100 [%]

■ Standby Function

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

Example 1: When ordering a product with model name: NZ2520SB, frequency: 20 MHz, overall frequency tolerance: ±30 x 10^{-6}, and supply voltage: 1.8 V
Ordering Code: NZ2520SB – 20.000000M – NSA3412C

Example 2: When ordering a product with model name: NZ2520SB, frequency: 20 MHz, overall frequency tolerance: ±30 x 10^{-6}, and supply voltage: 3.3 V
Ordering Code: NZ2520SB – 20.000000M – NSA3415C

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/).