

# Crystal Clock Oscillator

## NZ2520S Series

## Wide Operating Temperature Range Type

### Model name

NZ2520SG Overall frequency tolerance of  $\pm 100 \times 10^{-6}$ .

### Application

- For Automobile navigation system, automobile audio equipment, and camera.
- For Camcorder, Digital Still Camera, Notebook PC, and PDA.



Pb Free

RoHS Compliant  
Directive 2011/65/EU

### Features

- Supports a wide temperature range: -40 to +105°C.
- Compact and light. Dimensions : 2.5 × 2.0 × 0.9 mm, weight : 0.02 g.
- This crystal clock oscillator can support low frequencies (from 1.5MHz) not easily achieved with crystal units of the same size.
- Taped units enable automatic mounting and IR Reflow (lead free) is possible.
- Lead-free.
- Conforms to AEC-Q200.

Absolute maximum rating  
Supply voltage (V<sub>CC</sub>) -0.5 to +4.0 V  
Storage temperature range -55 to +125 °C

### Specifications

Item		Model	NZ2520SG								
Output level			CMOS								
Nominal frequency range <sup>*1</sup>		(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 <sup>*2</sup>		(°C)	-40 to +105								
Overall frequency tolerance		(×10 <sup>-6</sup> )	±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	
		+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 <sub>OL</sub> max/V <sub>OH</sub> min		(V)	0.1 V <sub>CC</sub> /0.9 V <sub>CC</sub>								
Tr max/Tf max		(ns)	5/5								
Symmetry min. to max.		(%)	45 to 55								
Load (C <sub>L</sub> ) 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.

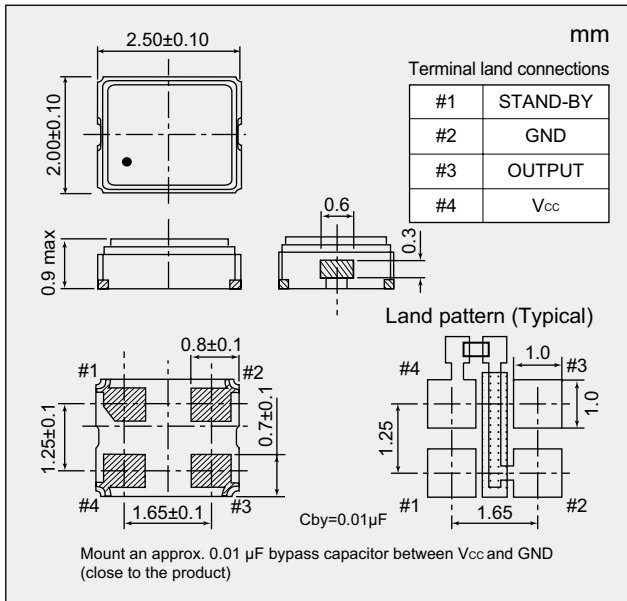
### List of Codes for Placing an Order

List of Codes for Placing an Order	NSA3483A	NSA3484A	NSA3485A	NSA3486A
Supply voltage (V <sub>CC</sub> ) (V)	+1.8±0.18	+2.5±0.25	+3.0±0.3	+3.3±0.33

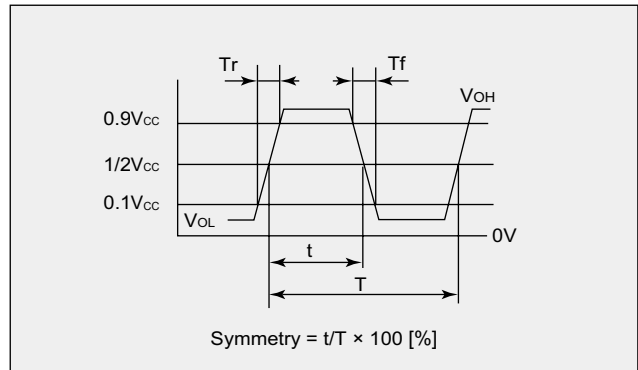
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### ■ Dimensions



### ■ 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) M – Number for specifying an order

Example 1 :When ordering a product with model name: NZ2520SG, frequency: 20 MHz, overall frequency tolerance:  $\pm 100 \times 10^{-6}$ , and power supply voltage: 1.8 V  
Ordering Code: NZ2520SG – 20.000000M – NSA3483A

Example 2 :When ordering a product with model name: NZ2520SG, frequency: 20 MHz, overall frequency tolerance:  $\pm 100 \times 10^{-6}$ , and power supply voltage: 3.3 V  
Ordering Code: NZ2520SG – 20.000000M – NSA3486A

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/>).