

# Crystal Clock Oscillator

## NZ2520SD

## Low Phase Noise Type

### Application

- For High-quality-audio, Smartphone, Tablet computers, Wireless module, Notebook PC and DSC

### Features

- Low phase noise make this product ideal for High quality audio.
- Compact and light. Dimensions : 2.5 x 2.0 x 0.9 mm, weight : 0.02 g.
- Wide frequency range: 1.5 to 80 MHz.
- Automatic mounting by taping and IR reflow (lead-free) are possible.
- Lead-free.

Pb Free

RoHS Compliant  
Directive 2011/65/EU



Absolute maximum rating  
Supply Voltage (V<sub>CC</sub>) -0.6 to +6.0 V  
Storage Temperature Range -55 to +125 °C

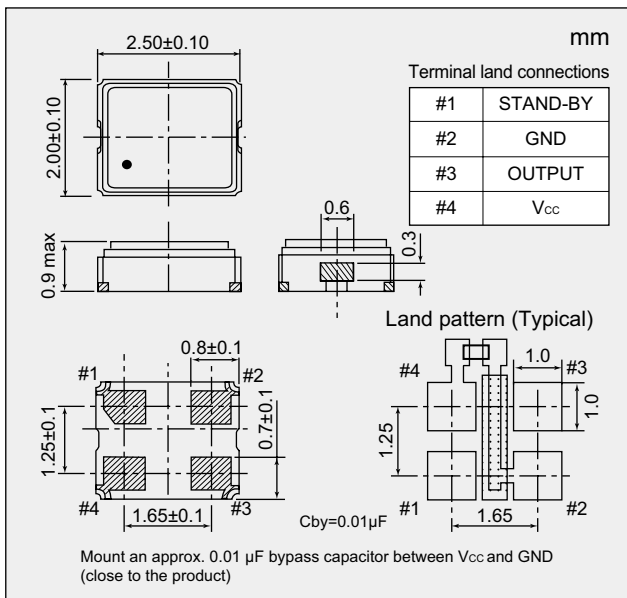
### Specifications

Item		Model	NZ2520SD		
Output Level			CMOS		
Nominal Frequency Range		(MHz)	1.5 to 80		
Overall Frequency Tolerance		( $\times 10^{-6}$ )	$\pm 50$	$\pm 30$	$\pm 20$
Operating Temperature Range		(°C)	-40 to +85	-10 to +70	-10 to +60
Supply Voltage		(V)	+1.8 to +3.3		
Current Consumption Max.	During Operation	+25 °C	(mA)		
	During Standby	+25 °C	(μA)		
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)	6 / 6		
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)		

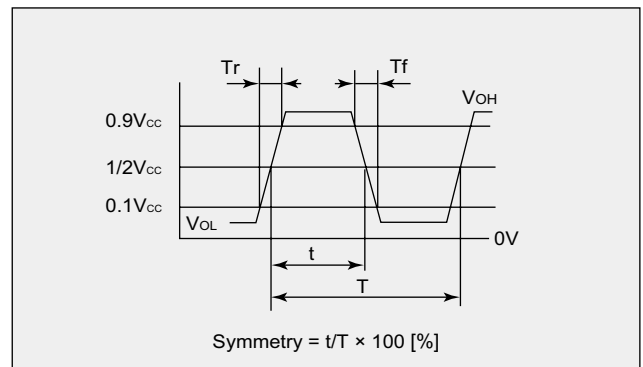
### Characteristics

		F=20MHz	F=40MHz	F=60MHz	F=80MHz
+1.8V, +25 °C	F <sub>out</sub> ±1 kHz (Typ.)	-147	-143	-139	-136
	F <sub>out</sub> ±100 kHz (Typ.)	-156	-154	-150	-150
+2.5 to +3.3V, +25 °C	F <sub>out</sub> ±1 kHz (Typ.)	-151	-148	-142	-136
	F <sub>out</sub> ±100 kHz (Typ.)	-157	-156	-156	-154

### Dimensions



### Output Waveform <CMOS>



### Standby Function

#1 Input	#3 Output
Level H (0.7 V <sub>CC</sub> ≤ V <sub>IH</sub> ≤ V <sub>CC</sub> ) or OPEN is selected.	Oscillation output ON
Level L (V <sub>IL</sub> ≤ 0.3 V <sub>CC</sub> ) is selected.	High impedance

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### ■ Specification Number

Overall Frequency Tolerance	Operating Temperature Range(°C)	Supply Voltage (V)			
		+1.8±0.18	+2.5±0.25	+2.8±0.28	+3.3±0.33
±50 × 10 <sup>-6</sup>	-40 to +85	NSA3446E	NSA3447E	NSA3448E	NSA3449E
±30 × 10 <sup>-6</sup>	-10 to +70	NSA3446C	NSA3447C	NSA3448C	NSA3449C
±20 × 10 <sup>-6</sup>	-10 to +60	NSA3446D	NSA3447D	NSA3448D	NSA3449D

Please specify the model name, frequency, and specification number when you order products.

For further questions regarding specifications, please feel free to contact us.