

Crystal Clock Oscillator

NZ2520SH

Standard Type

■ Application

For Automotive navigation system, Automotive audio equipment and Camera
For Smartphone, Tablet computers, Notebook PC, PC card, etc.
For Audioequipment and Wireless module
For Communication equipment for SDH/SONET, WiMAX, LTE, etc. and Base station

■ Features

- Supports a wide temperature range from -40 to $+125^{\circ}\text{C}$.
- Compact and light. Dimensions : $2.5 \times 2.0 \times 0.9$ 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.
- Supports a wide frequency range (80 to 170MHz).
- Taped units enable automatic mounting IR Reflow (lead free) is possible.
- Lead-free.
- Conforms to AEC-Q100/200.



Pb
Free

RoHS Compliant
Directive 2011/65/EU

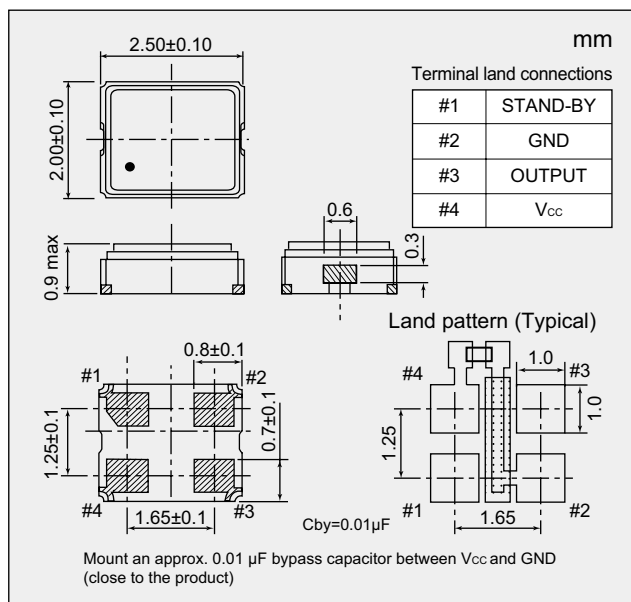
Absolute maximum rating
Supply Voltage (V_{CC}) -0.3 to $+4.0$ V
Storage Temperature Range -55 to $+125^{\circ}\text{C}$

■ Specifications

Item			Model	NZ2520SH	
Output Specification				CMOS	
Nominal Frequency Range			(MHz)	$1.5 \leq F \leq 80$	$80 < F \leq 170$ (*1)
Overall Frequency Tolerance			($\times 10^{-6}$)	± 100 to ± 20 (*2)	
Operating Temperature Range			(°C)	[−40 to +125] to [−10 to +60] (*2)	
Supply Voltage			(V)	+1.8 to +3.3 (*1)	
Current Consumption Max.	During Operation	+25 °C	(mA)	2.5 to 9.0	9.5 to 38.0
	During Standby	+25 °C	(μA)	20	
V _{OL} Max. / V _{OH} Min.			(V)	0.1 V _{CC} / 0.9 V _{CC}	0.2 V _{CC} / 0.8 V _{CC}
Tr Max. / Tf Max.		+1.8 V	(ns)	6 / 6 (at 0.1 V _{CC} to 0.9 V _{CC})	3 / 3 (at 0.2 V _{CC} to 0.8 V _{CC})
		+2.5 to +3.3V		5 / 5 (at 0.1 V _{CC} to 0.9 V _{CC})	
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. Supply Voltage : $+2.5$ to $+3.3$ V (131 to 170MHz)

■ Dimensions

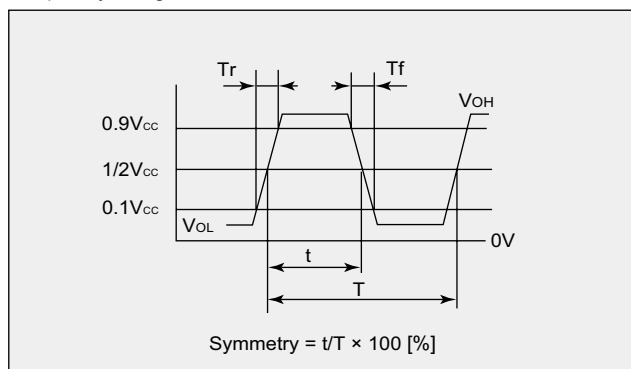


■ Standby Function

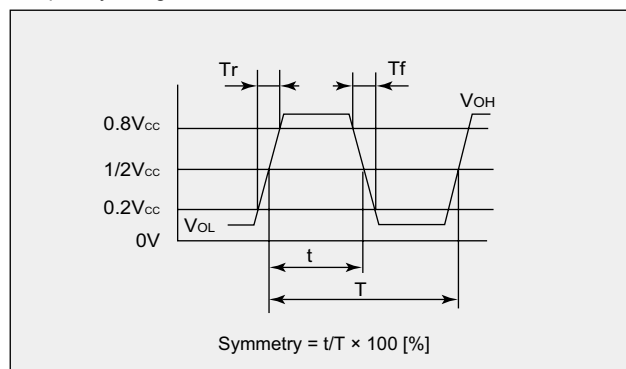
#1 Input	#3 Output
Level H ($0.7 V_{CC} \leq V_{IH} \leq V_{CC}$) or OPEN is selected.	Oscillation output ON
Level L ($V_{IL} \leq 0.3 V_{CC}$) is selected.	High impedance

■ Output Waveform <CMOS>

Frequency Range : $1.5 \leq F \leq 80\text{MHz}$



Frequency Range : $80 < F \leq 170\text{MHz}$



■ Specification Number

Frequency Range : $1.5 \leq F \leq 80\text{MHz}$

(*2) Overall Frequency Tolerance	(*2) Operating Temperature Range (°C)	Supply Voltage (V)			
		+1.8±0.18	+2.5±0.25	+3.0±0.3	+3.3±0.33
±100×10 ⁻⁶	-40 to +125	NSA3579A	NSA3579B	NSA3579C	NSA3579D
±50×10 ⁻⁶	-40 to +105	NSC5004A	NSC5004B	NSC5004C	NSC5004D
±50×10 ⁻⁶	-40 to +85	NSC5005A	NSC5005B	NSC5005C	NSC5005D
±30×10 ⁻⁶	-10 to +70	NSC5007A	NSC5007B	NSC5007C	NSC5007D
±20×10 ⁻⁶	-10 to +60	NSC5008A	NSC5008B	NSC5008C	NSC5008D

Frequency Range : $80 < F \leq 170\text{MHz}$

(*2) Overall Frequency Tolerance	(*2) Operating Temperature Range (°C)	Supply Voltage (V)			
		+1.8±0.18	+2.5±0.25	+3.0±0.3	+3.3±0.33
±100×10 ⁻⁶	-40 to +125	NSC5171A	NSC5171B	NSC5171C	NSC5171D
±50×10 ⁻⁶	-40 to +105	NSC5172A	NSC5172B	NSC5172C	NSC5172D
±50×10 ⁻⁶	-40 to +85	NSC5009A	NSC5009B	NSC5009C	NSC5009D
±30×10 ⁻⁶	-10 to +70	NSC5011A	NSC5011B	NSC5011C	NSC5011D
±20×10 ⁻⁶	-10 to +60	NSC5012A	NSC5012B	NSC5012C	NSC5012D

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

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