# **Crystal Clock Oscillator**



## NZ2520SEB

#### **High-precision Type**

#### ■ Application

- For car navigation, car audio, camera
- For smartphones, tablets, notebook PCs, PC cards, etc.
- For audio and wireless modules
- For communication equipment such as SDH / SONET, WiMAX, LTE, base stations
- For WiLAN, Bluetooth, PLC (power line carrier communication), UWB (ultrawideband wireless)

#### **■** Features

- Overall Frequency Tolerance Max. ±25 x 10<sup>-6</sup> at -40 to +85°C.
- Compact and light. Dimensions: 2.5 x 2.0 x 0.9 mm, weight: 0.02 g.
- Taped units enable automatic mounting IR Reflow (lead free) is possible.
- Conforms to AEC-Q200.







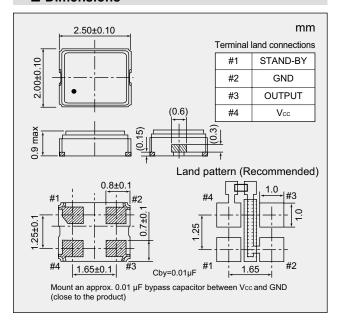
Absolute maximum rating Supply Voltage (Vcc) -0.3 to +4.5 V Storage Temperature Range -55 to +125 °C

#### **■** Specifications

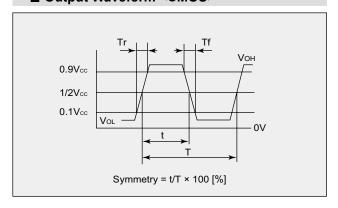
Item Model			Model	NZ2520SEB	
Output Specification				CMOS	
Nominal Frequency (MHz)			(MHz)	24, 25, 26	
Overall Frequency Tolerance (×10			(×10 <sup>-6</sup> )	± 12 to ± 25 (*1)	
Operating Temperature Range (°			(°C)	[-10 to +60] to [-40 to +85] (*1)	
Supply Voltage [Vcc]			(V)	+1.8 to +3.3 (*1)	
Current Consumption Max.	During Operation	+25 °C	(mA)	2.5 to 10.0	
	During Standby	+25 °C	(µA)	10	
V <sub>OL</sub> Max. / V <sub>OH</sub> Min. (V			(V)	0.1 V <sub>CC</sub> / 0.9 V <sub>CC</sub>	
Tr Max. / Tf Max. (ns)			(ns)	5 / 5	
Symmetry Min. to Max. +25 °C		(%)	45 to 55		
Load (C <sub>L</sub> ) Max. (pF)			(pF)	15	
Start-up Time Max. (ms)			(ms)	4	
Standby function				Available (Three-state)	

<sup>(\*1)</sup> Please refer to the Specification Number.

#### **■** 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	Operating Temperature	Supply Voltage (V)				
Tolerance	Range (°C)	+1.8±0.10	+2.5±0.25	+3.0±0.3	+3.3±0.33	
±25 × 10 <sup>-6</sup>	-40 to +85	NSC5281A	NSC5281B	NSC5281C	NSC5281D	
±20 × 10 <sup>-6</sup>	-30 to +85	NSC5282A	NSC5282B	NSC5282C	NSC5282D	
±15 × 10 <sup>-6</sup>	-20 to +70	NSC5283A	NSC5283B	NSC5283C	NSC5283D	
±12 × 10-6	-10 to +60	NSC5284A	NSC5284B	NSC5284C	NSC5284D	

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

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