## **Crystal Clock Oscillator**



## NZ2520SEA

## **High-precision Crystal Clock Oscillator**

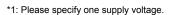
#### **■** Application

• WiLAN, WiMAX, Bluetooth, PLC, UWB, Car-electronics connection.

#### **■** Features

This device is a new SPXO of hold over frequency tolerance as tight as  $\pm 15 \times 10^{-6}$ (-40 to +85°C) by building a temperature compensating circuit in it. CMOS output despite temperature compensated circuit. This device reduces harmonics level to prevent the interference with the radio frequency by the wireless communication use.

- Overall Frequency Tolerance Max. ±15×10<sup>-6</sup> at -40 to +85°C.
- CMOS output
- Harmonics level reduce.
- Conventional ratio about -17dBm at Output 40MHz, Vcc 2.8V, 2.4GHz band.
- Supply voltage :  $1.8 \pm 0.09$ V,  $2.5 \pm 0.125$ V,  $3.3 \pm 0.165$ V. \*1
- Package Size: 2.5 x 2.0 x 0.8mm







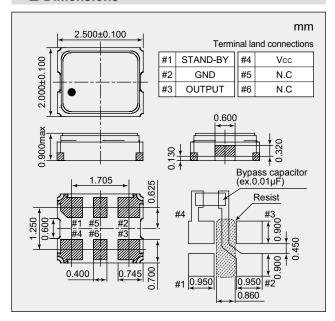
Absolute maximum rating Supply Voltage (Vcc) –0.6 to +6.0 V Storage Temperature Range –55 to +125 °C

#### ■ Specifications

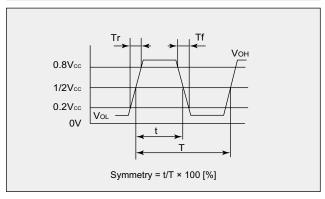
Item			Model	NZ2520SEA				
Output Level				CMOS				
Nominal Frequency Range			(MHz)	2.75 ≤ F < 11	11 ≤ F < 22	22 ≤ F < 30	30 ≤ F < 40	40 ≤ F ≤ 54
Operating Temperature Range			(°C)	-40 to +85				
Overall Frequency Tolerance *2 Max.			(×10 <sup>-6</sup> )	±15				
Current Consumption Max.	During Operation	+1.8 V, +25 °C	(mA)	3.5	4.0	4.5	5.0	6.0
		+2.5 V, +25 °C		4.0	4.5	5.0	5.5	6.5
		+3.3 V, +25 °C		4.5	5.0	5.5	6.0	8.0
	During Standby	+1.8 to +3.3 V, +25 °C	(µA)			10		
Vol Max. / Voн Min.			(V)	0.2 Vcc / 0.8 Vcc				
Tr Max. / Tf Max.			(ns)	5/5 ( at 0.2 to 0.8Vcc )				
Symmetry Min. to Max.			(%)	45 to 55 ( at 1/2Vcc )				
Load (C <sub>L</sub> ) Max.			(pF)	15				
Start-up Time Max. (r			(ms)	10				
Standby function				Available (Three-state)				

<sup>\*2:</sup> Inclusive of +25°C tolerance, temp. characteristics, and supply voltage change.

#### **■** Dimensions



## ■ Output Waveform <CMOS>



#### **■ Standby Function**

#1 Input	#3 Output
Level H (0.8 $V_{CC} \le V_{IH} \le V_{CC}$ ) or OPEN	Operating
Level L (V <sub>IL</sub> ≤ 0.2 V <sub>CC</sub> )	High impedance

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### **■** Specification Number

Overall Frequency	Operating Temperature	Supply Voltage (V)			
Tolerance	Range(°C)	+1.8±0.09	+2.5±0125	+3.3±0.165	
±100×10-6	-40 to +125	NSA3513A	NSA3513B	NSA3513C	

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

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