Crystal Clock Oscillator

NDK — Crystal Bridge to the Future

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 $\pm15\times10^{-6}$(–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. $\pm15\times10^{-6}$ at –40 to +85°C.
● Harmonics level reduce.
● Conventional ratio about -17dBm at Output 40MHz, V_{CC} 2.8V, 2.4GHz band.
● Package Size : 2.5 × 2.0 × 0.9mm

Pb Free
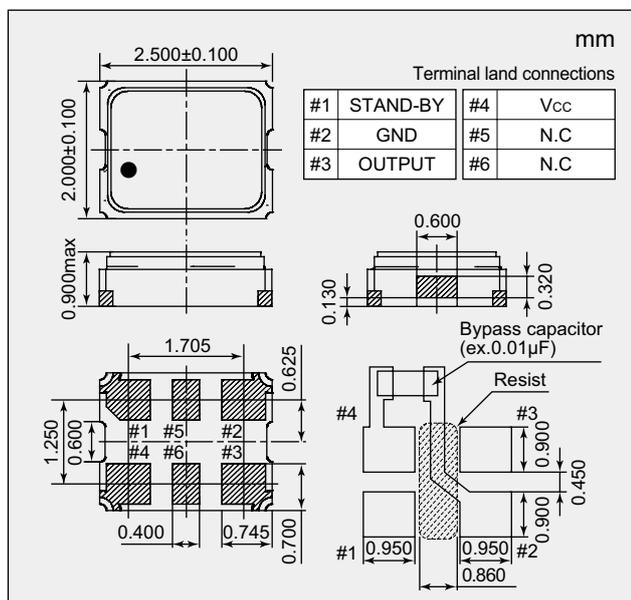
RoHS Compliant Directive 2011/65/EU

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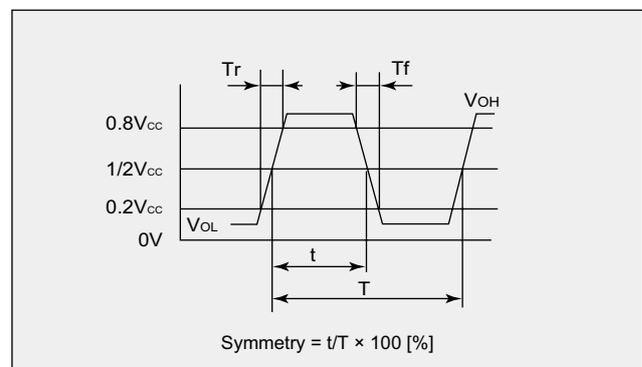Storage Temperature Range –55 to +125 °C

■ Specifications

Item			Model	NZ2520SEA
Output Level				CMOS
Nominal Frequency Range			(MHz)	2.75 to 54
Overall Frequency Tolerance [*1]			($\times10^{-6}$)	±15
Operating Temperature Range			(°C)	–40 to +85
Supply Voltage			(V)	+1.8 to +3.3
Current Consumption Max.	During Operation	+25 °C	(mA)	3.5 to 8.0
	During Standby	+25 °C	(µA)	10
V_{OL} Max. / V_{OH} Min.			(V)	0.2 V_{CC} / 0.8 V_{CC}
Tr Max. / Tf Max.			(ns)	5 / 5 (at 0.2 to 0.8V_{CC})
Symmetry Min. to Max.			(%)	45 to 55 (at 1/2V_{CC})
Load (C_L) Max.			(pF)	15
Start-up Time Max.			(ms)	10
Standby function				Available (Three-state)

*1: Inclusive of +25°C tolerance, temp. characteristics, and supply voltage change.

■ Dimensions

mm

Terminal land connections

#1	STAND-BY	#4	V_{CC}
#2	GND	#5	N.C
#3	OUTPUT	#6	N.C

2.500±0.100
2.000±0.100
0.900max
0.130
0.320
1.705
0.625
1.250
0.600
0.400
0.745
0.700
0.600
#1 #5 #2
#4 #6 #3

Bypass capacitor (ex.0.01µF)
Resist
#4
#3
0.900
0.900
0.450
#1 0.950
0.950 #2
0.860

■ Output Waveform <CMOS>

Symmetry = t/T × 100 [%]

■ Standby Function

#1 Input	#3 Output
Level H (0.8 V_{CC} ≤ V_{IH} ≤ V_{CC}) or OPEN	Operating
Level L (V_{IL} ≤ 0.2 V_{CC})	High impedance

NIHON DEMPA KOGYO CO.,LTD.

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NZ2520SEA   High-precision Crystal Clock Oscillator

■ Specification Number

Overall Frequency Tolerance	Operating Temperature Range(°C)	Supply Voltage (V)			
		+1.8±0.18	+2.5±0.25	+3.0±0.3	+3.3±0.33
±15×10^{-6}	−40 to +85	NSA3513A	NSA3513B	NSA3513D	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.