

Crystal Clock Oscillator

NZ2016SK

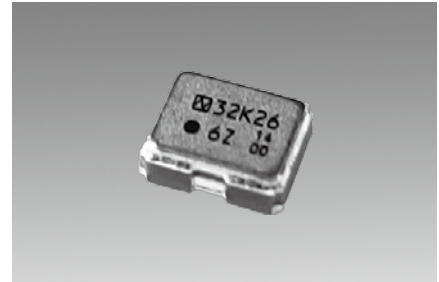
Dual output (32.768 kHz + MHz)

Application

- Bluetooth Low Energy (BLE) communication function.
- Wearable devices, and compact and thin devices such as smartphone and tablet.
- Devices both with clock signal source for microcomputer and clock function other than above.

Features

- Dual output (32.768kHz+MHz output)
- Mode function available
(Single output (32.768kHz) or Dual output (32.768kHz+MHz) is selectable.)
- Ultra low current consumption : Typ. 0.8μA (32.768kHz Single output)
- Dimension : 2.0 × 1.6 mm, Height 0.7mm
- Wide voltage operation range ($V_{CC} = +1.6$ V to $+3.7$ V)
- Output Specification : CMOS
- High reliability, hermetically sealed ceramic package



Absolute maximum rating
Supply Voltage (V_{CC}) -0.3 to $+4.5$ V
Storage Temperature Range -55 to $+125$ °C

Pb Free

RoHS Compliant
Directive 2011/65/EU
Directive (EU) 2015/863

Specifications

General Specification

Item	Model	NZ2016SK	
Output Frequency (1)	(kHz)	32.768	
Output Frequency (2)	(MHz)	16, 24, 25, 26, 32	
Supply Voltage (V_{CC})	(V)	$+1.6$ to $+3.7$	
Operating Temperature Range	(°C)	-40 to $+85$	
Current Consumption Max. (+25°C) No-Load	Single output(*1) (32.768kHz)	1.0 (at $+1.8$ V)	1.3 (at $+3.3$ V)
	Dual output (32.768kHz+MHz)	1.0 (at $+1.8$ V)	1.4 (at $+3.3$ V)

*1 : Average current

Function table

#1 Input Mode	#2 Output	#4 Output
	32.768kHz	MHz
Level H ($0.7 V_{CC} \leq V_{IH} \leq V_{CC}$)	Output ON	Output ON
Level L ($V_{IL} \leq 0.3 V_{CC}$)	Output ON	Output OFF

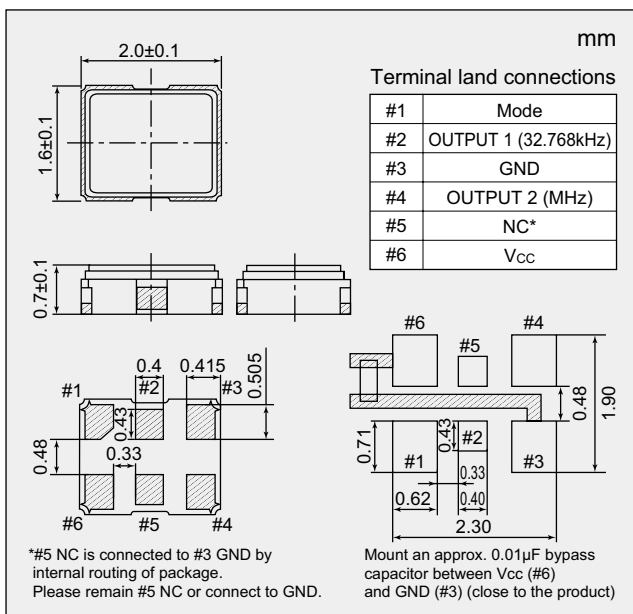
(1) 32.768kHz output specification

Item		Specification
Frequency Tolerance (+25°C)	($\times 10^{-6}$)	± 20 (3 days average)
Frequency/Temperature Characteristics (-40 to $+85$ °C, with reference to $+25$ °C)	($\times 10^{-6}$)	± 30 (3 days average)
Output Voltage (V_{OH} / V_{OL})	(V)	Min. $0.9V_{CC}$ / Max. $0.1V_{CC}$
Symmetry	(%)	45 to 55
Load (C_L)	(pF)	Max. 15

(2) MHz output specification

Item		Specification
Overall Frequency Tolerance	($\times 10^{-6}$)	$\pm 20, \pm 40$
Output Voltage (V_{OH} / V_{OL})	(V)	Min. $0.9V_{CC}$ / Max. $0.1V_{CC}$
Symmetry	(%)	45 to 55
Load (C_L)	(pF)	Max. 15
Start-up Time	(ms)	Max. 1.0

Dimensions



Specification Number

MHz output specification

	Supply Voltage (V)		
Overall Frequency Tolerance	$+1.8 \pm 0.18$	$+3.3 \pm 0.33$	$+1.6$ to $+3.7$
$\pm 20 \times 10^{-6}$	NSC5089A	NSC5089D	NSC5089E
$\pm 40 \times 10^{-6}$	NSC5088A	NSC5088D	NSC5089E

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

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