

Crystal Clock Oscillator

NZ2016S Series

For OA, AV, and short-range wireless

Model name

NZ2016SA Overall frequency tolerance of $\pm 100 \times 10^{-6}$.

Application

- For mobile camera module, DVC, DSC, notebook PC, and PDA



Pb Free

RoHS Compliant
Directive 2011/65/EU

Features

- Ultra-compact and light. Dimensions : 2.0 x 1.6 x 0.7 mm, weight : 0.01 g.
- Supply voltage of +1.8 to +3.3 V ideal for low-power and power-saving type products.
- Seam sealing gives high reliability.
- Wide frequency range: 1.5 to 80 MHz.
- Automatic mounting by taping and IR reflow (lead-free) are possible.

Absolute maximum rating
Supply voltage (V_{CC}) -0.5 to $+4.0$ V
Storage temperature range -55 to $+125$ °C

Specifications

Item		Model	NZ2016SA							
Output level			CMOS							
Nominal frequency range ^{*1}		(MHz)	$1.5 \leq F < 10$	$10 \leq F < 20$	$20 \leq F < 30$	$30 \leq F < 40$	$40 \leq F < 50$	$50 \leq F < 60$	$60 \leq F < 70$	$70 \leq F \leq 80$
Operating temperature range ^{*2}		(°C)	-20 to $+70$							
Overall frequency tolerance		($\times 10^{-6}$)	± 100							
Current consumption max	During operation	+1.8 V, 25 °C	2.5	3.5	4.0	4.5	5.0	5.5	6.0	6.5
		+2.5 V, 25 °C	3.0	4.0	4.5	5.0	5.5	6.0	6.5	7.0
		+3.0 V, 25 °C	3.5	4.5	5.0	5.5	6.0	6.5	7.5	8.5
	During standby	+1.8 V to +3.3 V, 25 °C	(μ A)	10						
V_{OL} max/ V_{OH} min		(V)	$0.1 V_{CC}/0.9 V_{CC}$							
T_r max/ T_f max		(ns)	5/5							
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: If you require a product with a frequency not given above, please contact us.

*2: If you require a product with an operating temperature range not given above, please contact us.

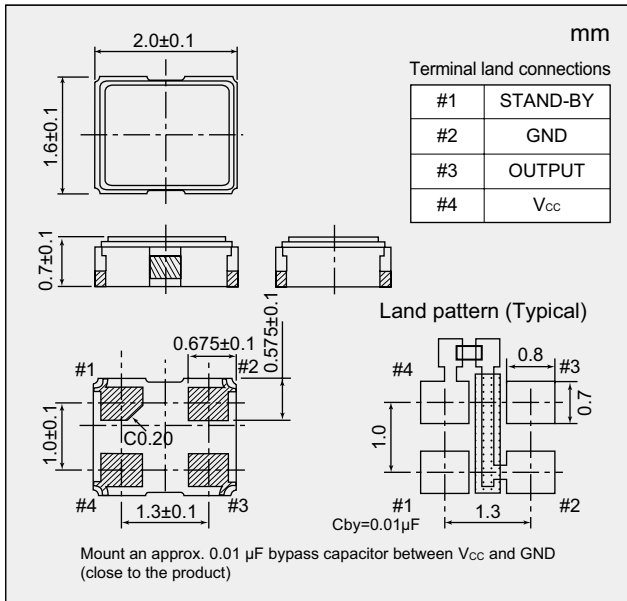
List of Codes for Placing an Order

List of Codes for Placing an Order (The purchase order number differs according to the difference in supply voltage.)		NSA3439A	NSA3440A	NSA3441A	NSA3442A
Supply voltage (V_{CC})	(V)	$+1.8 \pm 0.18$	$+2.5 \pm 0.25$	$+3.0 \pm 0.3$	$+3.3 \pm 0.33$

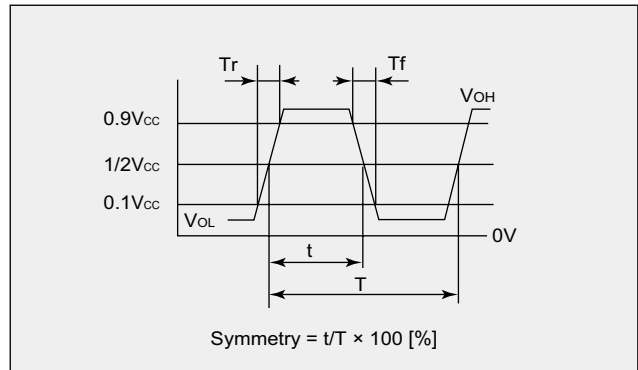
NZ2016S Series

For OA, AV, and short-range wireless

■ Dimensions



■ Output Waveform <CMOS>



■ 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

■ How to Specify an Order

When ordering our products, specify them with an "Ordering Code" that consists of the following:

[Model name] – [Frequency (up to 9 digits)] M – [Number for specifying an order]

Example 1: When ordering a product with model name: NZ2016SA, frequency: 20 MHz, and supply voltage: 2.5 V

Ordering Code: NZ2016SA – 20.000000M – NSA3440A

Example 2: When ordering a product with model name: NZ2016SA, frequency: 20 MHz, and supply voltage: 3.0 V

Ordering Code: NZ2016SA – 20.000000M – NSA3441A

If you have any queries concerning our standard frequencies and numbers for specifying orders, please contact our sales representatives or visit our homepage (<http://www.ndk.com/>).