

Crystal Clock Oscillator

NZ2016S Series

For OA, AV, and short-range wireless

Model name

NZ2016SA Overall frequency tolerance of $\pm 25 \times 10^{-6}$.

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_{DD}) -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 ≤ F < 10	10 ≤ F < 20	20 ≤ F < 30	30 ≤ F < 40	40 ≤ F < 50	50 ≤ F < 60	60 ≤ F < 70	70 ≤ F ≤ 80		
Operating temperature range ^{*2}			(°C)	-20 to +70									
Overall frequency tolerance			(×10 ⁻⁶)	±25									
Current consumption max	During operation	+1.8 V, 25 °C	(mA)	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		
		+3.3 V, 25 °C		3.5	4.5	5.0	5.5	6.0	7.0	8.0	9.0		
	During standby	+1.8 V to +3.3 V, 25 °C	(μA)	10									
V _{OL} max/V _{OH} min			(V)	0.1 V _{DD} /0.9 V _{DD}									
Tr max/Tf 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 (tristate)									

*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.

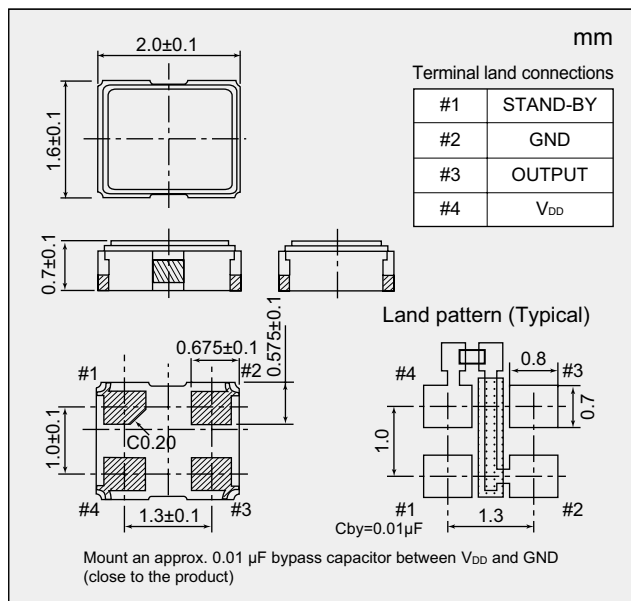
List of Codes for Placing an Order

List of Codes for Placing an Order (The purchase order number differs according to the difference in supply voltage.)		NSA3439D	NSA3440D	NSA3441D	NSA3442D
Supply voltage (V_{DD})	(V)	$+1.8 \pm 0.1$	$+2.5 \pm 0.1$	$+3.0 \pm 0.1$	$+3.3 \pm 0.1$

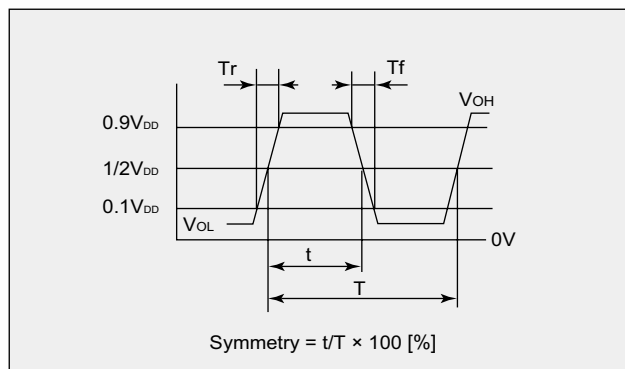
NZ2016S Series

For OA, AV, and short-range wireless

■ Dimensions



■ Output Waveform <CMOS>



■ Standby Function

#1 Input	#3 Output
Level H ($0.7 V_{DD} \leq V_{IH} \leq V_{DD}$) or OPEN is selected.	Oscillation output ON
Level L ($V_{IL} \leq 0.3 V_{DD}$) 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 – NSA3440D

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

Ordering Code: NZ2016SA – 20.000000M – NSA3441D

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/>).