

Crystal Clock Oscillator

NZ2016SH

Standard Type

Application

For Automotive navigation system, Automotive audio equipment and Camera
 For Smartphone, Tablet computers, Notebook PC, PC card, etc.
 For Audioequipment and Wireless module
 For Communication equipment for SDH/SONET, WiMAX, LTE, etc. and Base station

Features

- Supports a wide temperature range from -40 to $+125^{\circ}\text{C}$.
- Ultra compact and light. Dimensions : $2.0 \times 1.6 \times 0.7$ mm, weight : 0.01 g.
- This crystal clock oscillator can support low frequencies (from 1.5MHz) not easily achieved with crystal units of the same size.
- Low phase jitter (Typ. 100fs (Frequency Offset : 12kHz to 20MHz)@ 80MHz , 3.3V)
- Taped units enable automatic mounting IR Reflow (lead free) is possible.
- Lead-free.
- Conforms to AEC-Q200.



Pb Free

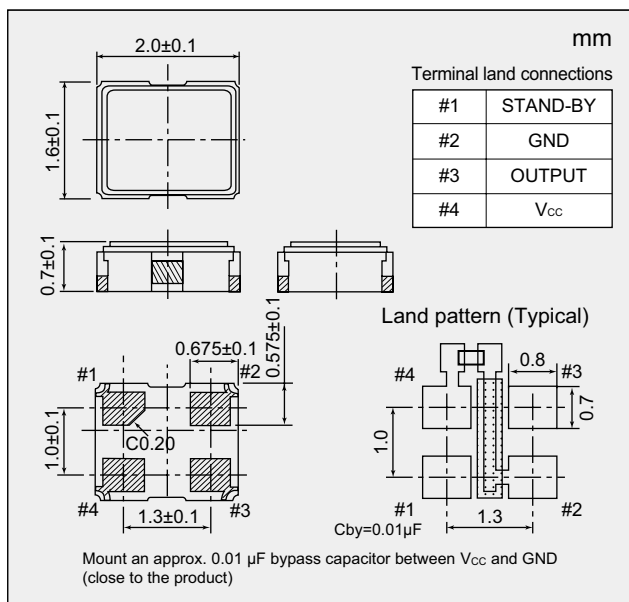
RoHS Compliant
 Directive 2011/65/EU
 Directive (EU) 2015/863

Absolute maximum rating
 Supply Voltage (V_{CC}) -0.3 to $+4.0$ V
 Storage Temperature Range -55 to $+125^{\circ}\text{C}$

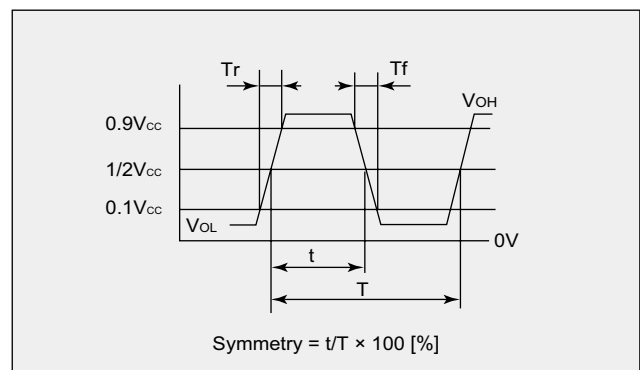
Specifications

Item	Model	NZ2016SH				
Output Specification		CMOS				
Nominal Frequency Range	(MHz)	$1.5 \leq F \leq 80$				
Overall Frequency Tolerance	($\times 10^{-6}$)	± 100	± 50	± 50	± 30	± 20
Operating Temperature Range	($^{\circ}\text{C}$)	-40 to $+125$	-40 to $+105$	-40 to $+85$	-10 to $+70$	-10 to $+60$
Supply Voltage	(V)	$+1.8$ to $+3.3$				
Current Consumption Max.	During Operation	$+25^{\circ}\text{C}$	(mA)			
	During Standby	$+25^{\circ}\text{C}$	(mA)			
V_{OL} Max. / V_{OH} Min.	(V)	$0.1 V_{CC}$ / $0.9 V_{CC}$				
T_r Max. / T_f Max.	$+1.8$ V	$+2.5$ to $+3.3\text{V}$	(ns)			
			$6 / 6$ (at $0.1 V_{CC}$ to $0.9 V_{CC}$)			
Symmetry Min. to Max.			(ns)			
			$5 / 5$ (at $0.1 V_{CC}$ to $0.9 V_{CC}$)			
Symmetry Min. to Max.	(%)	45 to 55				
Load (C_L) Max.	(pF)	15				
Start-up Time Max.	(ms)	4				
Standby function		Available (Three-state)				

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

Crystal Clock Oscillator

NZ2016SH

Standard Type

■ 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
± 100 × 10 ⁻⁶	-40 to +125	NSC5019A	NSC5019B	NSC5019C	NSC5019D
± 50 × 10 ⁻⁶	-40 to +105	NSC5021A	NSC5021B	NSC5021C	NSC5021D
± 50 × 10 ⁻⁶	-40 to +85	NSC5022A	NSC5022B	NSC5022C	NSC5022D
± 30 × 10 ⁻⁶	-10 to +70	NSC5024A	NSC5024B	NSC5024C	NSC5024D
± 20 × 10 ⁻⁶	-10 to +60	NSC5025A	NSC5025B	NSC5025C	NSC5025D

Please specify the model name, frequency, and specification number when you order products.
For further questions regarding specifications, please feel free to contact us.