

# Crystal Clock Oscillator

## NZ2016SD

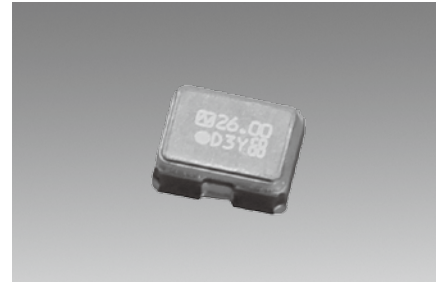
## Low Phase Noise Type

### Application

- For High-quality-audio, Smartphone, Tablet computers, Wireless module, Notebook PC and DSC

### Features

- Low phase noise make this product ideal for High quality audio.
- Phase noise  $F_{out} \pm 1\text{kHz}$  : Typ.  $-146\text{dBc/Hz}$  @ $+3.3\text{V}$ ,  $+25^\circ\text{C}$ ,  $F_{out}=26\text{MHz}$   
 $F_{out} \pm 100\text{kHz}$  : Typ.  $-157\text{dBc/Hz}$  @ $+3.3\text{V}$ ,  $+25^\circ\text{C}$ ,  $F_{out}=26\text{MHz}$
- Ultra-compact and light. Dimensions :  $2.0 \times 1.6 \times 0.7$  mm, weight :  $0.01$  g.
- Wide frequency range:  $1.5$  to  $60$  MHz.
- Automatic mounting by taping and IR reflow (lead-free) are possible.
- Lead-free.



Pb Free

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

Absolute maximum rating  
 Supply Voltage ( $V_{CC}$ )  $-0.6$  to  $+6.0$  V  
 Storage Temperature Range  $-55$  to  $+125^\circ\text{C}$

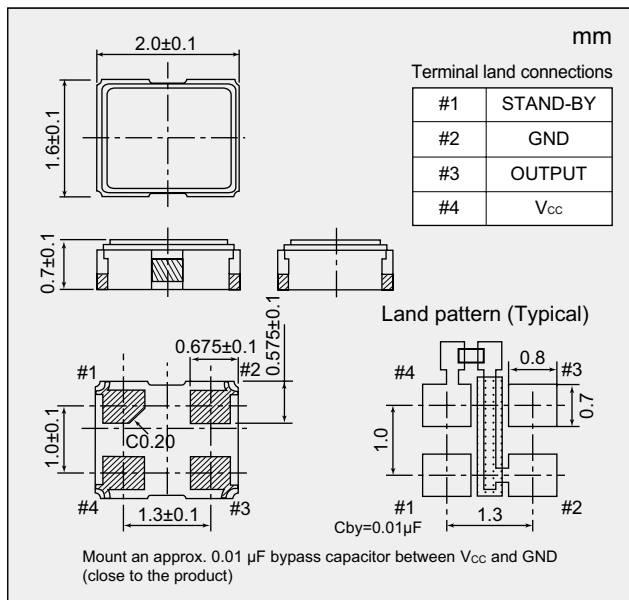
### Specifications

Item	Model	NZ2016SD		
Output Specification		CMOS		
Nominal Frequency Range	(MHz)	$1.5 \leq F \leq 60$		
Overall Frequency Tolerance	( $\times 10^{-6}$ )	$\pm 50$	$\pm 30$	$\pm 20$
Operating Temperature Range	( $^\circ\text{C}$ )	$-40$ 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	$+25^\circ\text{C}$	( $\mu\text{A}$ )	
$V_{OL}$ Max. / $V_{OH}$ Min.	(V)	$0.1 V_{CC}$ / $0.9 V_{CC}$		
$T_r$ Max. / $T_f$ Max.	(ns)	6 / 6		
Symmetry Min. to Max.	(%)	45 to 55		
Load ( $C_L$ ) Max.	(pF)	15		
Start-up Time Max.	(ms)	4		
Standby function		Available (Three-state)		

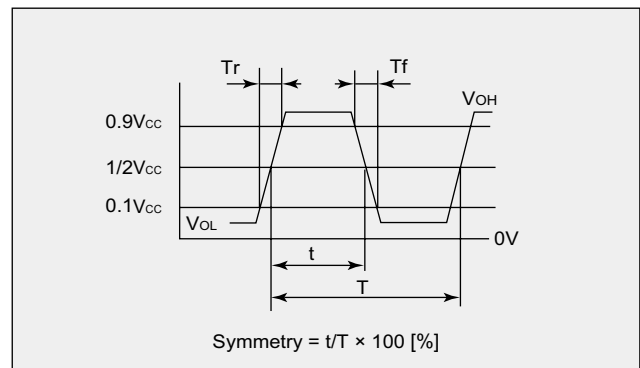
### Characteristics

			F=26MHz	F=60MHz
			$+1.8\text{V}$ , $+25^\circ\text{C}$	$F_{out} \pm 1\text{ kHz}$ (Typ.)
	$F_{out} \pm 100\text{ kHz}$ (Typ.)	-154	-150	
$+2.5$ to $+3.3\text{V}$ , $+25^\circ\text{C}$	$F_{out} \pm 1\text{ kHz}$ (Typ.)	(dBc/Hz)	-146	-143
	$F_{out} \pm 100\text{ kHz}$ (Typ.)		-157	-156

### 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

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## Low Phase Noise 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
±50 × 10 <sup>-6</sup>	-40 to +85	NSA3580G	NSA3581G	NSA3582G	NSA3583G
±30 × 10 <sup>-6</sup>	-10 to +70	NSA3580C	NSA3581C	NSA3582C	NSA3583C
±20 × 10 <sup>-6</sup>	-10 to +60	NSA3580D	NSA3581D	NSA3582D	NSA3583D

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

# End of Life

# Mar-2021