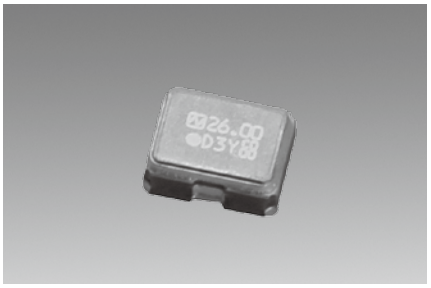
Crystal Clock Oscillator

NDK Crystal Bridge to the Future

NZ2016SD — Low Phase Noise Type

■ Application

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



Pb Free

RoHS Compliant Directive 2011/65/EU

■ Features

- Low phase noise make this product ideal for High quality audio.
- Phase noise Fout±1kHz : Typ. -146dBc/Hz @+3.3V, +25°C, Fout=26MHz
  Fout±100kHz : Typ. -157dBc/Hz @+3.3V, +25°C, Fout=26MHz
- Ultra-compact and light. Dimensions : 2.0 x 1.6 x 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.

Absolute maximum rating
Supply Voltage (V_{CC}) –0.6 to +6.0 V
Storage Temperature Range –55 to +125 °C

■ Specifications

Item \ Model				NZ2016SD		
Output				CMOS		
Nominal Frequency Range			(MHz)	1.5 to 60		
Overall Frequency Tolerance			($\times 10^{-6}$)	±50	±30	±20
Operating Temperature Range			(°C)	–40 to +85	–10 to +70	–10 to +60
Supply Voltage			(V)	+1.8 to +3.3		
Current Consumption Max.	During Operation	+25 °C	(mA)	1.8 to 6.5		
	During Standby	+25 °C	(µA)	10		
V_{OL} Max. / V_{OH} Min.			(V)	0.1 V_{CC} / 0.9 V_{CC}		
Tr Max. / Tf 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
+1.8V, +25 °C	Fout±1 kHz (Typ.)	(dBc/Hz)	–143	–139
	Fout±100 kHz (Typ.)		–154	–150
+2.5 to +3.3V, +25 °C	Fout±1 kHz (Typ.)		–146	–143
	Fout±100 kHz (Typ.)		–157	–156

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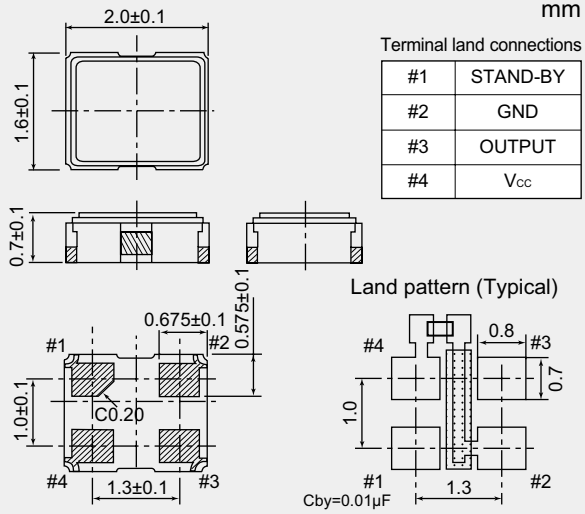
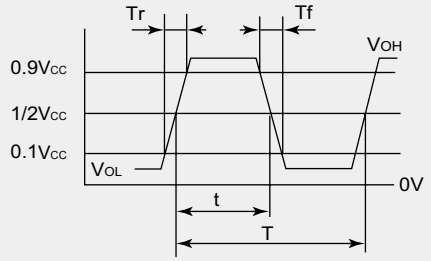
■ Dimensions



■ Output Waveform <CMOS>



Symmetry = t/T × 100 [%]

■ Standby Function

#1 Input	#3 Output
Level H (0.7 V_{CC} ≤ V_{IH} ≤ V_{CC}) or OPEN is selected.	Oscillation output ON
Level L (V_{IL} ≤ 0.3 V_{CC}) is selected.	High impedance

■ 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^{-6}	–40 to +85	NSA3580G	NSA3581G	NSA3582G	NSA3583G
±30 × 10^{-6}	–10 to +70	NSA3580C	NSA3581C	NSA3582C	NSA3583C
±20 × 10^{-6}	–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.