

NV7050S[] Multi Mode Voltage Controlled Crystal Oscillator (VCXO)

■ Main Application

Base-stations, GbEthernet, Optical transmission device, and Server

■ Features

- Supports a wide frequency range. (15 to 2100MHz (Frequency tuning resolution : 2×10^{-9}))
- Frequency selection function (Dual, Quad, Any Rate)
- Low jitter : Typ. 130fs rms (@622.08MHz)
- Five types of output levels : CMOS, LVPECL, LVDS, CML, HCSL
- Supports low power supply voltage : +1.8V, +2.5V, +3.3V
- Selection of frequency control range : 9 ranges (Min. $\pm 50 \times 10^{-6}$ to $\pm 250 \times 10^{-6}$)



Pb Free

RoHS Compliant
Directive 2011/65/EU

■ Specifications

Item	Model	NV7050S[]				
Frequency Selection Function		Single (No selection function) Dual (Select from 2 frequencies) Quad (Select from 4 frequencies) Any Rate (Setable desired frequency by I2C)				
Nominal Frequency Range (MHz)		15 ≤ f ≤ 2100				
		15 ≤ f ≤ 2100	15 ≤ f ≤ 2100	15 ≤ f ≤ 2100	15 ≤ f ≤ 700	15 ≤ f ≤ 200
Output Voltage		LVPECL	LVDS	CML	HCSL	CMOS
Current Consumption (mA)		Max. 95	Max. 85	Max. 80	Max. 100	Max. 85
Output load Condition		50Ω(V _{CC} -2.0V)	100Ω	50Ω(V _{CC})	50Ω	15pF
Supply Voltage [V _{CC}] (V)		+1.8V±5% +2.5V±5% +3.3V±10%				
Enable/Disable function		Enable Low Enable High None				
Frequency Control Range		Select frequency control range (Min. $\pm 50 \times 10^{-6}$ to Min. $\pm 250 \times 10^{-6}$)				
Operating Temperature Range (°C)		-40 to +85				
Storage Temperature Range (°C)		-55 to +125				
Frequency Change Polarity		Positive or Negative				
Overall Frequency Tolerance (*)		Narrow stability		Standard stability		
		Max. $\pm 10 \times 10^{-6}$ Max. $\pm 20 \times 10^{-6}$		Max. $\pm 50 \times 10^{-6}$		
Phase Jitter (fs) (12kHz to 20MHz)		Narrow stability		Standard stability		
	(V _{CC} =+3.3V, LVPECL) 156.25MHz, VC= 100×10^{-6}	Typ. 190		Typ. 151		
	(V _{CC} =+3.3V, LVPECL) 156.25MHz, VC= 150×10^{-6}	Typ. 197		Typ. 156		
	(V _{CC} =+3.3V, LVPECL) 622.08MHz, VC= 100×10^{-6}	Typ. 161		Typ. 130		
	(V _{CC} =+3.3V, LVPECL) 2096MHz, VC= 100×10^{-6}	Typ. 183		Typ. 156		

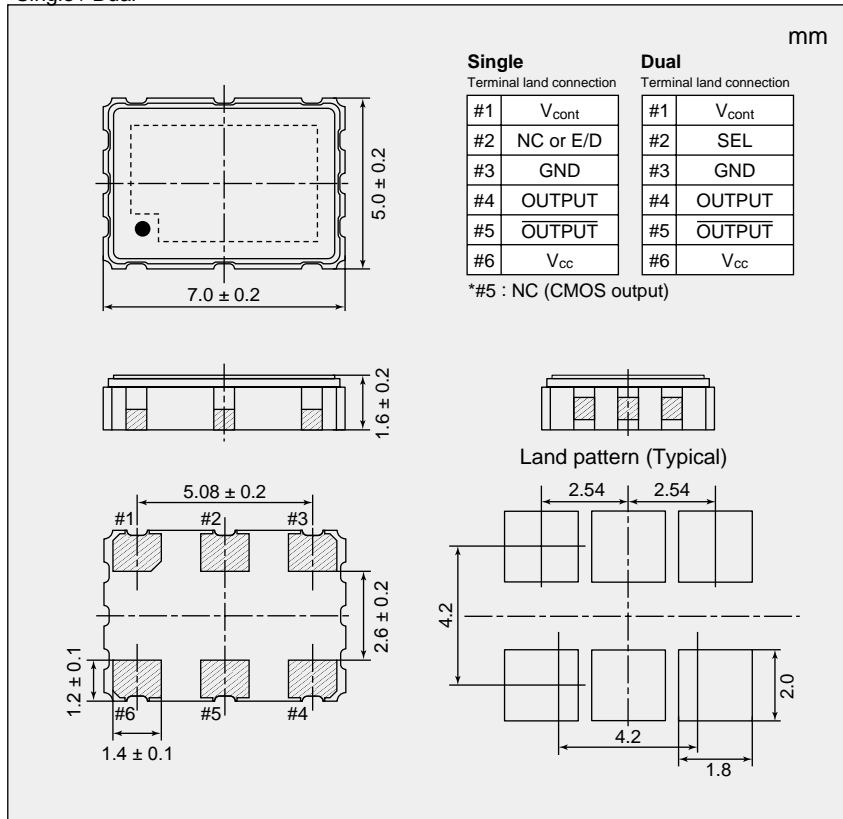
(*1) Overall frequency tolerance includes "Frequency/temperature characteristics", "Initial frequency tolerance", "Frequency/voltage coefficient", and "Long-term frequency stability(10 year)".

NV7050S[]

Multi Mode Voltage Controlled Crystal Oscillator (VCXO)

■ Dimensions

*Single / Dual



Single

Terminal land connection

#1	V _{cont}
#2	NC or E/D
#3	GND
#4	OUTPUT
#5	OUTPUT
#6	V _{CC}

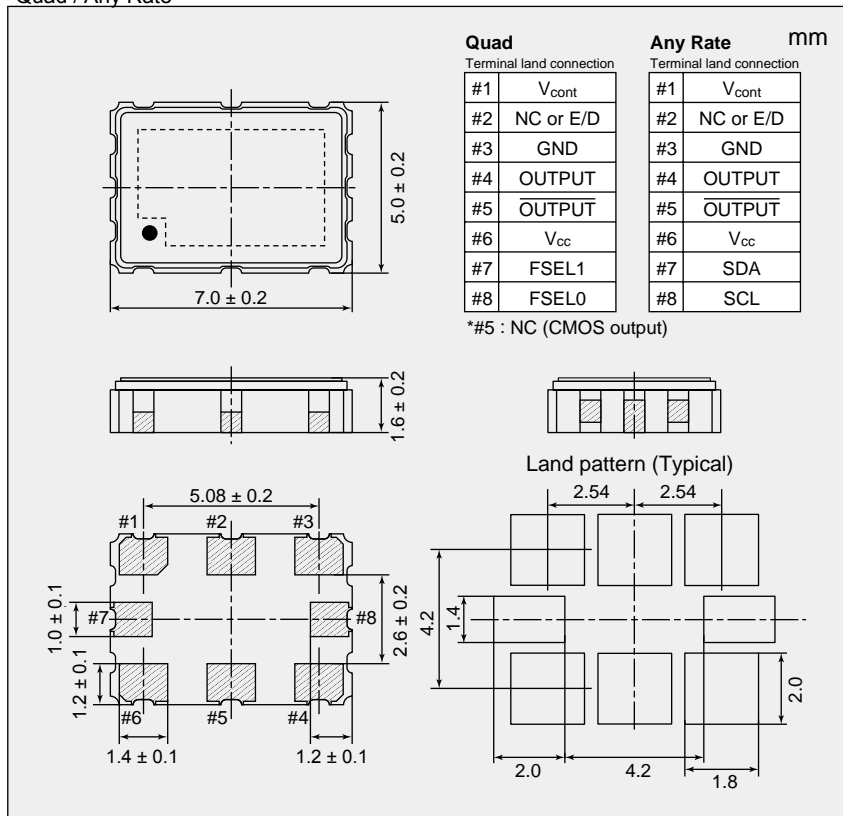
*#5 : NC (CMOS output)

Dual

Terminal land connection

#1	V _{cont}
#2	SEL
#3	GND
#4	OUTPUT
#5	OUTPUT
#6	V _{CC}

*Quad / Any Rate



Quad

Terminal land connection

#1	V _{cont}
#2	NC or E/D
#3	GND
#4	OUTPUT
#5	OUTPUT
#6	V _{CC}
#7	FSEL1
#8	FSEL0

*#5 : NC (CMOS output)

Any Rate

Terminal land connection

#1	V _{cont}
#2	NC or E/D
#3	GND
#4	OUTPUT
#5	OUTPUT
#6	V _{CC}
#7	SDA
#8	SCL

■ Necessary information for inquiry

For question or order of this product, please specify following specifications. If you require a product with specifications not given following, please contact NDK sales.

① — ② ③ ④ ⑤ ⑥ ⑦ ⑧

(e.g.) NV7050SK - 622.08 A P H D C A
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Model

NV7050SK	Single
NV7050SL	Dual
NV7050SM	Quad
NV7050SN	Any Rate

② Frequency

In case of Dual or Quad, please specify one frequency and request other frequency separately. In case of Any Rate, please specify one frequency of initial setting. Frequency is specified in MHz and four decimal places (Max.).

(e.g.) 644.53125MHz : 644.5313

③ Supply Voltage

A	+3.3V
B	+2.5V
C	+1.8V

④ Output Voltage

C	CMOS
P	LVPECL
L	LVDS
M	CML
H	HCSL

⑤ Enable/Disable function

H	Enable High
L	Enable Low
N	None

⑥ Overall Frequency Tolerance

B	±10×10 ⁻⁶
C	±20×10 ⁻⁶
D	±50×10 ⁻⁶

⑦ Frequency Control Range

A	±50×10 ⁻⁶
B	±75×10 ⁻⁶
C	±100×10 ⁻⁶
D	±125×10 ⁻⁶
E	±150×10 ⁻⁶
F	±175×10 ⁻⁶
G	±200×10 ⁻⁶
H	±225×10 ⁻⁶
J	±250×10 ⁻⁶

⑧ Operating Temperature Range

A	-40 to +85°C
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