

## NP7050S[]

Multi Mode Simple Packaged Crystal Oscillator (SPXO)

### ■ Main Application

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

### ■ Features

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



Pb Free

RoHS Compliant  
Directive 2011/65/EU

### ■ Specifications

| Item                                  | Model                                      | NP7050S[]   |               |                           |              |              |
|---------------------------------------|--|---|---------------|---------------------------|--------------|--------------|
| Frequency Selection Function          |  | Single (No selection function)<br>Dual (Select from 2 frequencies)<br>Quad (Select from 4 frequencies)<br>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                       | HCSSL        | CMOS         |
| Current Consumption (mA)              |  | Max. 95   | Max. 85       | Max. 80                   | Max. 100     | Max. 85      |
| Output Load Condition                 |  | 50Ω(V <sub>CC</sub> -2.0V)  | 100Ω          | 50Ω(V <sub>CC</sub> )     | 50Ω          | 15pF         |
| Supply Voltage [V <sub>CC</sub> ] (V) |  | +1.8V±5%<br>+2.5V±5%<br>+3.3V±10%   |               |                           |              |              |
| Enable/Disable function               |  | Enable Low<br>Enable High<br>None   |               |                           |              |              |
| Operating Temperature Range (°C)      |  | -40 to +85  |               |                           |              |              |
| Storage Temperature Range (°C)        |  | -55 to +125   |               |                           |              |              |
| Overall Frequency Tolerance (*)       |  | Narrow stability  |               | Standard stability        |              |              |
|                                       |  | Max. ±10×10 <sup>-6</sup><br>Max. ±20×10 <sup>-6</sup>  |               | Max. ±50×10 <sup>-6</sup> |              |              |
| Phase Jitter (fs) (12kHz to 20MHz)    |  | Narrow stability  |               | Standard stability        |              |              |
|                                       | V <sub>CC</sub> +3.3V, LVPECL<br>156.25MHz | Typ. 177  |               | Typ. 148                  |              |              |

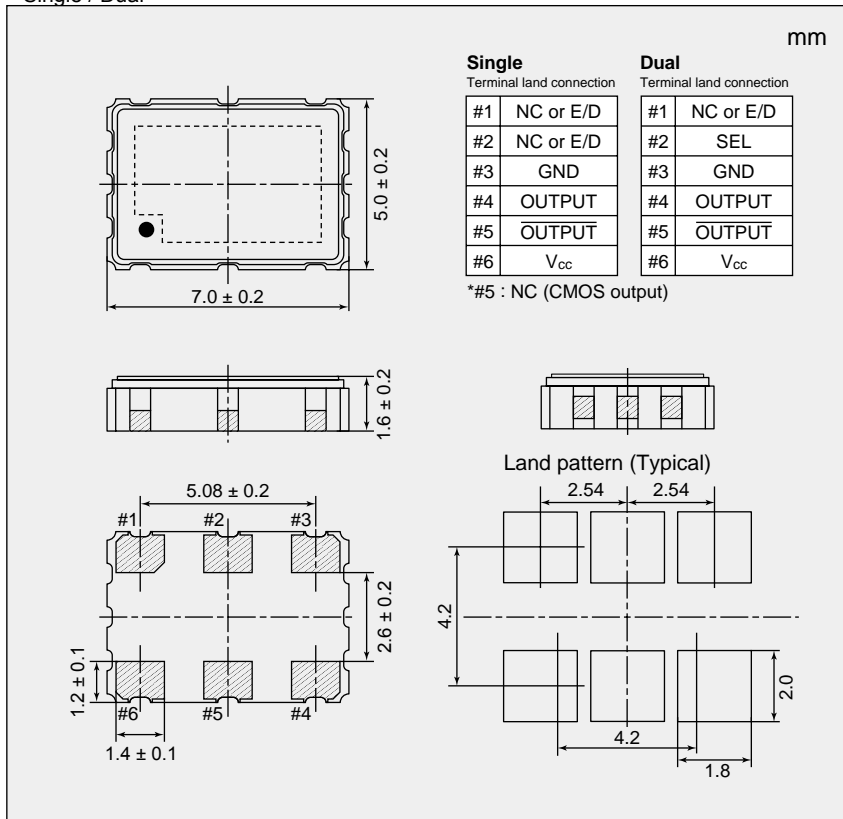
(\*1) Overall frequency tolerance includes "Frequency/temperature characteristics", "Initial frequency tolerance", "Frequency/voltage coefficient", and "Long-term frequency stability(10 year)".

## NP7050S□

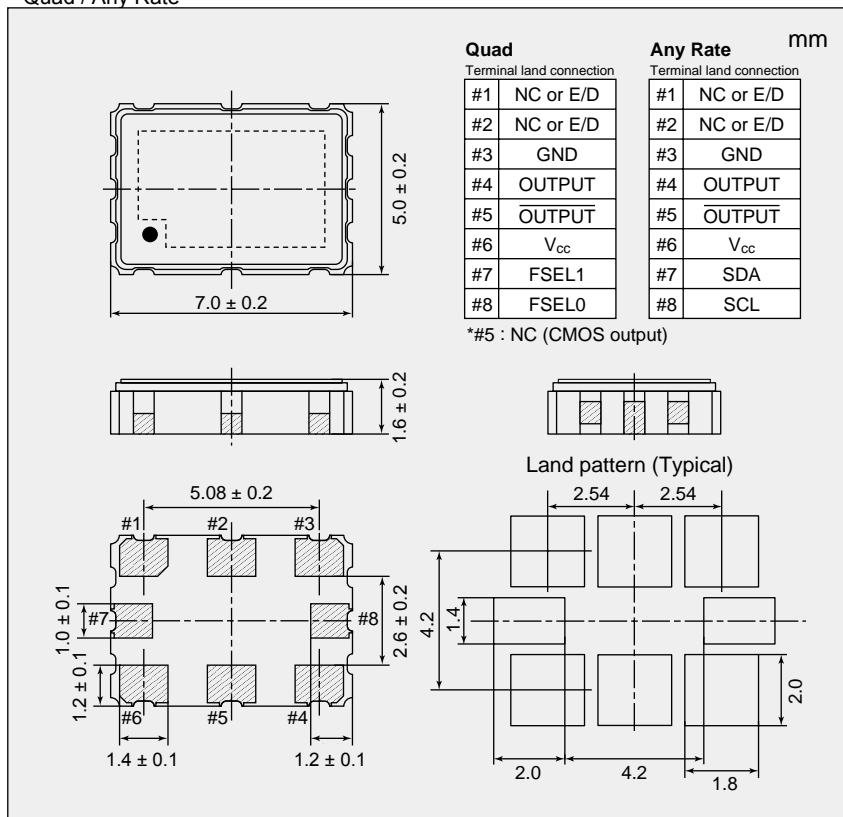
### Multi Mode Simple Packaged Crystal Oscillator (SPXO)

#### ■ Dimensions

• Single / Dual



• Quad / Any Rate



#### ■ 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  
(e.g.) NP7050SK - 622.08 A P H D C  
① ② ③ ④ ⑤ ⑥ ⑦

① Model

|          |          |
|----------|----------|
| NP7050SK | Single   |
| NP7050SL | Dual     |
| NP7050SM | Quad     |
| NP7050SN | 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 (#1) |
| L | Enable Low (#1)  |
| N | None             |
| A | Enable High (#2) |
| B | Enable Low (#2)  |

⑥ Overall Frequency Tolerance

|   |                      |
|---|----------------------|
| B | ±10×10 <sup>-6</sup> |
| C | ±20×10 <sup>-6</sup> |
| D | ±50×10 <sup>-6</sup> |

⑦ Operating Temperature Range

|   |              |
|---|--------------|
| A | -40 to +85°C |
|---|--------------|