

## NP3225SBD

Simple Packaged Crystal Oscillator (SPXO)

### Main Application

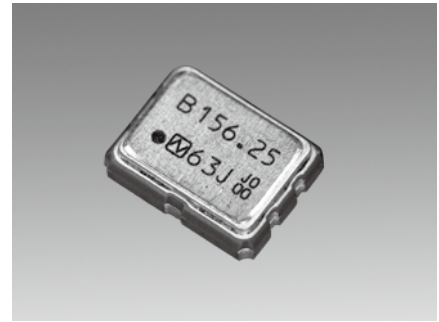
For Automotive CCD camera, Image processing, Memory, FPGA, Ground equipment for satellite communication and Digital terrestrial television broadcasting equipment

### Features

- Differential Output SPXO
- Compact dimension : 3.2 × 2.5 × 0.9 mm
- Overall Frequency Tolerance Max.  $\pm 25 \times 10^{-6}$  at  $-40$  to  $+85^\circ\text{C}$
- Supply Voltage : +3.3V
- Output Specification : LVDS
- Conforms to AEC-Q200

Pb Free

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



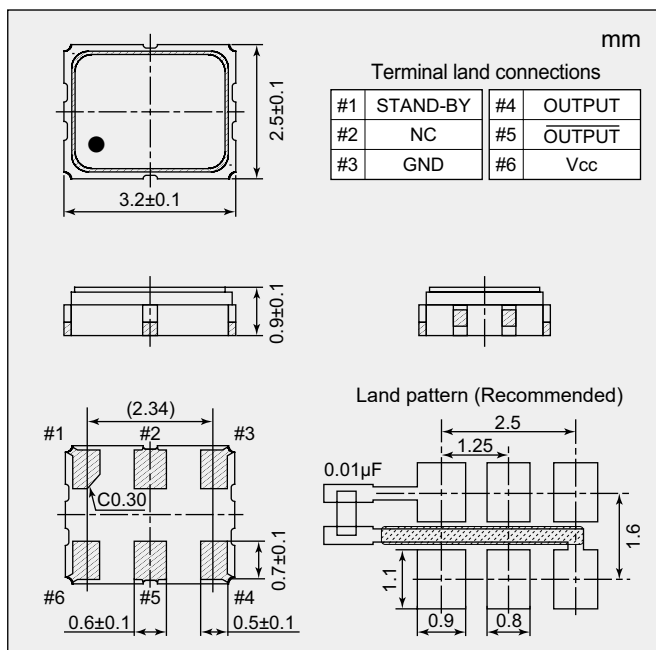
Absolute maximum rating  
Supply Voltage ( $V_{CC}$ )  $-0.3$  to  $+4.0$  V  
Storage Temperature Range  $-55$  to  $+125^\circ\text{C}$

### Specifications

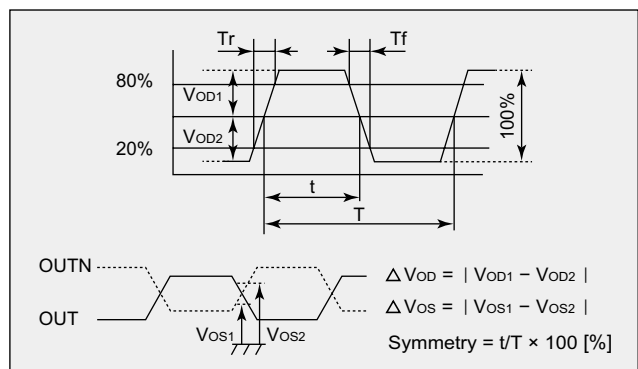
| Item   | Model                      | NP3225SBD  |
|--|----------------------------|--|
| Output Specification                             |                            | LVDS   |
| Nominal Frequency Range (MHz)                    |                            | 100, 156.25  |
| Overall Frequency Tolerance *1                   |                            | Max. $\pm 25 \times 10^{-6}$   |
| Operating Temperature Range ( $^\circ\text{C}$ ) |                            | $-40$ to $+85$   |
| Supply Voltage [ $V_{CC}$ ] (V)                  |                            | $+3.3 \pm 10\%$  |
| Current Consumption                              | Enable (mA)                | Max. 40 (STAND-BY= $V_{CC}$ or OPEN, $R_L=100\Omega$ )                         |
|  | Stand-by ( $\mu\text{A}$ ) | Max. 15 (STAND-BY=GND)   |
| Output Voltage                                   |                            | $V_{OD1} : V_{OD2} : +0.247$ to $+0.454\text{V}$ (Differential output voltage) |
|  |                            | $\Delta V_{OD} : \text{Max. } 50\text{mV}$ (Differential output voltage)       |
|  |                            | $V_{OS1}, V_{OS2} : +1.125$ to $+1.375\text{V}$ (Differential output voltage)  |
|  |                            | $\Delta V_{OS} : \text{Max. } 50\text{mV}$ (Differential output voltage)       |
| Rise Time / Fall Time (ns)                       |                            | Max. 0.4 (20 to 80% Waveform)  |
| Symmetry (%)                                     |                            | 45 to 55 (at 50% Waveform)   |
| Output Load [ $R_L$ ] ( $\Omega$ )               |                            | 100 (Differential output voltage)  |
| Start-up Time (ms)                               |                            | Max. 10  |
| Phase Jitter (ps)                                |                            | Max. 1 (Offset Frequency : 12kHz to 20MHz)                                     |
| Specification Number                             |                            | NSC5348B   |

\*1 : The frequency stability includes initial frequency tolerance, temperature variation, and supply variation.

### Dimensions



### Output waveform



### Standby Function Table (Three-state)

| #1 Input  | #4 and #5 output      |
|---|-----------------------|
| Level H ( $V_{IH} \geq 0.7 V_{CC}$ )<br>or OPEN | Oscillation output ON |
| Level L ( $V_{IL} \leq 0.3 V_{CC}$ )            | High impedance        |

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