

## 1.8V Operating Voltage Fundamental Quartz Crystal Oscillator IC with Input Tolerant Function

### ■GENERAL DESCRIPTION

The NJU6221 series is a C-MOS quartz crystal oscillator IC realized excellent frequency stability for fundamental (up to 60MHz) oscillation, and consists of an oscillation amplifier, a 6-stage divider, a 3-state output buffer, a built-in LDO and a input tolerant circuit.

The operating voltage is from 1.62V to 3.63V, and the LDO holds down the characteristic change of the oscillation amplifier for operating voltage variation, and has been stabilized oscillation frequency.

The 6-stage divider generates only one frequency selected of  $f_0$ ,  $f_0/2$ ,  $f_0/4$ ,  $f_0/8$ ,  $f_0/16$ ,  $f_0/32$  and  $f_0/64$  internal circuits is output.

The 3-state output buffer is C-MOS compatible of high fan-out.

The input tolerant circuit ensures that 0 to 3.63 V can be applied to CONT terminal without regard to the supply voltage.

The oscillation stopping current is very low stand-by mode below 10uA, therefore, it is suitable for the portable items of the communication equipment and the like.

### ■PACKAGE OUTLINE



NJU6221XxC-V

### ■FEATURES

- Input Tolerant Circuit 0 to 3.63V@CONT Term.
- Frequency Stability  $\pm 1\text{ppm}@V_{DD}\pm 10\%$
- Operating Voltage 1.62 to 3.63V
- Maximum Oscillation Frequency 60MHz(Fundamental)
- Low Operating Current 2mA typ.@60MHz/3.3V
- 6-Stage Divider Maximum Divider  $f_0/64$
- Built-in LDO
- Oscillation Stop and Output Stand-by Function
- 3-State Output Buffer
- Variable Pull-up Resistance on-Die
- Oscillation Capacitors  $C_g$  and  $C_g$  on-Die
- Package Outline Die/Wafer
- C-MOS Technology

### ■EXAMPLE OF PART NUMBER

1)NJU6221A1W-H

The pad location is Type A.

$F_{OUT}=f_0$ , Wafer Thickness=200um

2)NJU6221C3C-V

The pad location is Type C.

$F_{OUT}=f_0/4$ , Die Thickness=130um