# Specification of Quartz Crystal Controlled Oscillators



1 **NDK Part Number** NT3225SA-26M-DJA3005A

2 **NDK Specification Number** DJA3005A 3 **Type** NT3225SA

4 Rating

4.1 Nominal Frequency  $(f_{nom})$ 26 MHz ( 2 digits marking ) 4.2 Supply Voltage +2.7 V +/-0.1 V DC (-Earth)

4.3 **Current Consumption** Max. 2.0 mA

4.4 Output Voltage 150 to 450 mVrms Clipped sine wave (DC-Coupling)

4.5 Operable Temperature Range -20 to +75 °C 4.6 Storage Temperature Range -40 to +85 °C

4.7 Load impedance  $(10 \text{ k}\Omega//3.5 \text{ pF}) + /-10\%$ 

4.8 DC-cut Capacitor DC-cut capacitor of output is not put in TCXO.

Please add DC-cut capacitor (1000 pF) in output line.

#### 5 **Electrical specification**

## **Frequency Stability** 5.1

5.1.1 Frequency / Temperature Characteristics Max.  $\pm$ -2.5 ppm / -20 to  $\pm$ 75 °C (Based on frequency at  $\pm$ 25  $\pm$ -2 °C)

5.1.2 Frequency / Voltage Coefficient Max. +/-0.2 ppm / +2.7 V +/-0.1 V 5.1.3 Frequency / Load Coefficient Max. +/-0.2 ppm /  $(10 k\Omega // 3.5 pF)$  +/-10%

Frequency Tolerance at Control Voltage

 $(V_{cont} = +1.5 V DC)$ 

(at +25 +/-2 °C, before reflow soldering, based on nominal frequency)

Max. +/-2.0 ppm

+1.5 V +/-1.0 V DC

+/-9.0 to +/-16.0 ppm

(Unit: mm)

Max. +/-1.0 ppm

(at +25 +/-2 °C, 24 hours after reflow soldering, based on nominal frequency)

5.1.5 Long-term Frequency Stability Max. +/-1.0 ppm / year Max. +/-5.0 ppm / 10 years

## 5.2 **External Adjustment**

Control Voltage (V<sub>cont</sub>)

5.2.2 Frequency control range based on

frequency at V<sub>cont</sub> = +1.5 V DC

Frequency Control Sensitivity Max. 16.0 ppm/V 5.2.3

5.2.4 Frequency Change Polarity Positive Min. 500 kΩ 5.2.5 Input Impedance

5.2.6 Linearity of frequency modulation deviation Max. +/-20 % Max. 5.0 ms (More than 90 % of final output voltage) Start-up Time 5.3

5.4 Harmonic Distortion

Max. -15 dBc (2<sup>nd</sup>) Max. -10 dBc (3<sup>rd</sup>) Max. -20 dBc (higher)

Max. -110 dBc/Hz (@ 100 Hz offset) 5.5 Phase Noise Max. -130 dBc/Hz (@ 1 kHz offset)

### 6 **Dimension**









