

## General Description

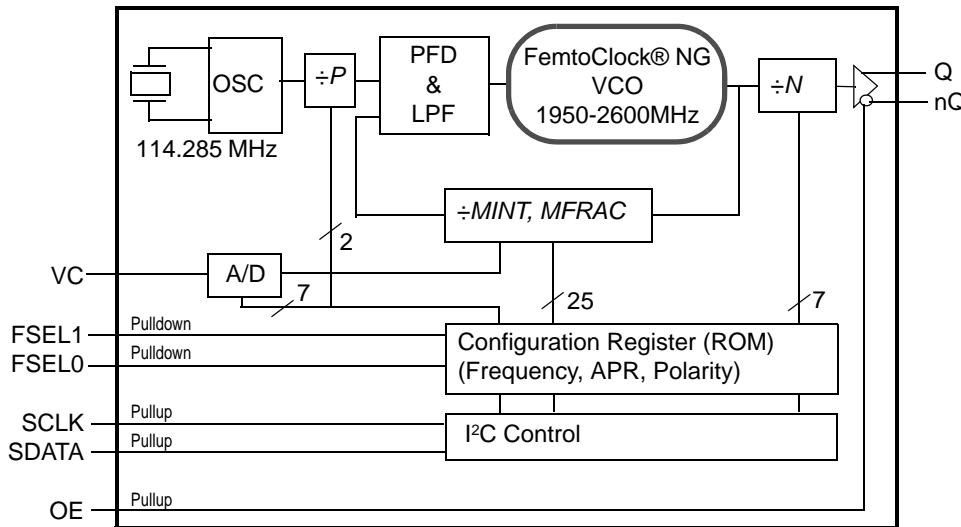
The IDT8N3QV01 is a Quad-Frequency Programmable VCXO with very flexible frequency and pull-range programming capabilities. The device uses IDT's fourth generation FemtoClock® NG technology for an optimum of high clock frequency and low phase noise performance. The device accepts 2.5V or 3.3V supply and is packaged in a small, lead-free (RoHS 6) 10-lead Ceramic 5mm x 7mm x 1.55mm package.

Besides the 4 default power-up frequencies set by the FSEL0 and FSEL1 pins, the IDT8N3QV01 can be programmed via the I<sup>2</sup>C interface to any output clock frequency between 15.476MHz to 866.67MHz and from 975MHz to 1,300MHz to a very high degree of precision with a frequency step size of  $435.9\text{Hz} \div N$  ( $N$  is the PLL output divider). Since the FSEL0 and FSEL1 pins are mapped to 4 independent PLL M and N divider registers (P, MINT, MFRAC and N), reprogramming those registers to other frequencies under control of FSEL0 and FSEL1 is supported. The extended temperature range supports wireless infrastructure, tele-communication and networking end equipment requirements. The device is a member of the high-performance clock family from IDT.

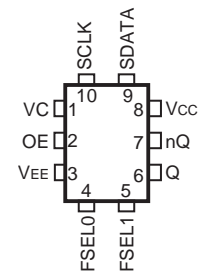
## Features

- Fourth generation FemtoClock® NG technology
- Programmable clock output frequency from 15.476MHz to 866.67MHz and from 975MHz to 1,300MHz
- Four power-up default frequencies (see part number order codes), reprogrammable by I<sup>2</sup>C
- I<sup>2</sup>C programming interface for the output clock frequency, APR and internal PLL control registers
- Frequency programming resolution is  $435.9\text{Hz} \div N$
- Absolute pull-range (APR) programmable from  $\pm 4.5$  to  $\pm 754.5\text{ppm}$
- One 2.5V or 3.3V LVPECL differential clock output
- Two control inputs for the power-up default frequency
- LVCMOS/LVTTL compatible control inputs
- RMS phase jitter @ 156.25MHz (12kHz - 20MHz): 0.487ps (typical)
- RMS phase jitter @ 156.25MHz (1kHz - 40MHz): 0.614ps (typical)
- 2.5V or 3.3V supply voltage modes
- -40°C to 85°C ambient operating temperature
- Available in Lead-free (RoHS 6) package

## Block Diagram



## Pin Assignment



**IDT8N3QV01 Rev G**  
**10-lead Ceramic 5mm x 7mm x 1.55mm**  
**package body**  
**CD Package**  
**Top View**

# Package Outline and Package Dimensions

