

Product Overview

NCS20071: Operational Amplifier, Wide supply range, 3Mhz CMOS Op-Amp

For complete documentation, see the data sheet.

The NCx2007x series operational amplifiers provide rail-to-rail output operation, 3 MHz bandwidth, and are available in single, dual, and quad configurations. Rail-to-rail operation enables the user to make optimal use of the entire supply voltage range while taking advantage of 3 MHz bandwidth. The NCx2007x can operate on supply voltages as low as 2.7 V over the temperature range of -40°C to 125°C. At a 2.7 V supply, the high bandwidth provides a slew rate of 2.8 V/μs while only consuming 405 μA of quiescent current per channel. The wide supply range allows the NCx2007x to run on supply voltages as high as 36 V, making it ideal for a broad range of applications. Since this is a CMOS device, high input impedance and low bias currents make it ideal for interfacing to a wide variety of signal sensors. The NCx2007x devices are available in a variety of compact packages. Automotive qualified options are available under the NCV prefix.

Features

- Wide Supply Range: 2.7 V to 36 V
- Wide Bandwidth: 3 MHz typical at $V_S = 2.7$ V
- Low Supply Current: 405 μA per channel at $V_S = 2.7$ V
- High Slew Rate: 2.8 V/μs typical at $V_S = 2.7$ V
- Low Input Bias Current: 5 pA typical
- Rail-To-Rail Output
- Wide Temperature Range: -40°C to 125°C
- NCV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable

Benefits

- Wide supply range suitable for a variety of applications
- Compatible with high speed signals up to 3 MHz
- Low current consumption
- High large signal bandwidth
- High input impedance
- Wide output range
- Functional over wide temperature range
- Meets automotive standards

Applications

- Current Sensing
- Signal Conditioning
- Automotive
- Lighting

End Products

- Notebook Computers
- Portable Instruments
- Power Supplies

Part Electrical Specifications

| Product | Pricing (\$/Unit) | Compliance | Status | Rail to Rail | Channels | V_S Min (V) | V_S Max (V) | I_Q Typ (mA) | V_{OS} Max (mV) | GBW Typ (MHz) | SR Typ (V/μs) | I_O Typ (mA) | $\Delta V_O / \Delta T$ (μV/°C) | e_N (nV/√Hz) | I_{bias} Typ (pA) | CMRR Typ (dB) | Architecture | Temperature Range (°C) | Package Type |
|-----------------|-------------------|---|--------|--------------|----------|---------------|---------------|----------------|-------------------|---------------|---------------|----------------|---------------------------------|----------------|---------------------|---------------|--------------|------------------------|--------------|
| NCS20071SN2T1G | 0.204 | Pb-free Halide free | Active | Output | 1 | 2.7 | 36 | 0.48 0.43 | 3.5 | 3 | 2.4 | 50 | 2 | 30 | 5 | 135 | CMOS | -40 to 125 | TSOP-5 |
| NCS20071XV53T2G | 0.204 | Pb-free Halide free | Active | Output | 1 | 2.7 | 36 | 0.43 | 3.5 | 3 | 2.4 | 50 | 2 | 30 | 5 | 135 | CMOS | -40 to 125 | SOT-553 |
| NCV20071SN2T1G | 0.2133 | AEC Qualified PPAP Capable Pb-free Halide free | Active | Output | 1 | 2.7 | 36 | 0.41 | 4 | 3 | 2.4 | 50 | 2 | 30 | 5 | 145 | CMOS | -40 to 125 | TSOP-5 |
| NCV20071XV53T2G | 0.2133 | AEC Qualified PPAP Capable Pb-free Halide free | Active | Output | 1 | 2.7 | 36 | 0.43 | 3.5 | 3 | 2.4 | 50 | 2 | 30 | 5 | 135 | CMOS | -40 to 125 | SOT-553 |

For more information please contact your local sales support at www.onsemi.com.

Created on: 3/30/2020