

Product Overview

NCS20072: Operational Amplifier, Wide supply range, 3Mhz CMOS Op-Amp

For complete documentation, see the data sheet.

The NCS2007x 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 NCS2007x 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 NCS2007x 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 NCS2007x 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
- Rail-To-Rail Output
- Wide Bandwidth: 3 MHz typical at VS = 2.7 V
- High Slew Rate: 2.8 V/s typical at VS = 2.7 V
- Low Supply Current: 405 A per channel at VS = 2.7 V
- Low Input Bias Current: 5 pA typical
- 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 wide variety of applications
- Wide output range
- Compatible with high speed signals up to 3 MHz
- High large signal bandwidth
- Low current consumption
- High input impedance
- Functional over wide temperature range
- Meets automotive standards

Applications

- Current Sensing
- Signal Conditioning
- Automotive

End Products

- Notebook Computers
- Portable Instruments
- Power Supplies

Part Electrical Specifications

| Product | 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) | ΔV _{OS} /ΔT (μV/°C) | e _N (nV/√Hz) | I _{bias} Typ (pA) | CMRR Typ (dB) | Architecture | Temperature Range (°C) | Package Type |
|----------------|---|--------|--------------|----------|------------------------|------------------------|-------------------------|--------------------------|---------------|---------------|-------------------------|------------------------------|-------------------------|----------------------------|---------------|--------------|------------------------|--------------|
| NCS20072DMR2G | Pb-free Halide free | Active | Output | 2 | 2.7 | 36 | 0.41 | 4 | 3 | 2.5 | 50 | 2 | 30 | 5 | 145 | CMOS | -40 to 125 | Micr o8™ |
| NCS20072DR2G | Pb-free Halide free | Active | Output | 2 | 2.7 | 36 | 0.41 | 4 | 3 | 2.5 | 50 | 2 | 30 | 5 | 145 | CMOS | -40 to 125 | SOI C-8 |
| NCS20072DTBR2G | Pb-free Halide free | Active | Output | 2 | 2.7 | 36 | 0.41 | 4 | 3 | 2.5 | 50 | 2 | 30 | 5 | 145 | CMOS | -40 to 125 | TSS OP-8 |
| NCV20072DMR2G | AEC Qualified PPAP Capable Pb-free Halide free | Active | Output | 2 | 2.7 | 36 | 0.41 | 4 | 3 | 2.5 | 50 | 2 | 30 | 5 | 145 | CMOS | -40 to 125 | Micr o8™ |
| NCV20072DR2G | AEC Qualified PPAP Capable Pb-free Halide free | Active | Output | 2 | 2.7 | 36 | 0.41 | 4 | 3 | 2.5 | 50 | 2 | 30 | 5 | 145 | CMOS | -40 to 125 | SOI C-8 |
| NCV20072DTBR2G | AEC Qualified PPAP Capable Pb-free Halide free | Active | Output | 2 | 2.7 | 36 | 0.41 | 4 | 3 | 2.5 | 50 | 2 | 30 | 5 | 145 | CMOS | -40 to 125 | TSS OP-8 |

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