

## Product Overview

### LMV321: Operational Amplifier, Low Power, Rail to Rail Output, CMOS Op-Amp

For complete documentation, see the data sheet.

The LMV321/NCV321, LMV358, and LMV324 are single, dual, and quad low voltage op-amps with rail-to-rail output swing. These amplifiers are a cost-effective solution for applications where low power consumption and space saving packages are critical. Specification tables are provided for operation from power supply voltages at 2.7 V and 5 V. Rail-to-Rail operation allows for optimal signal-to-noise applications. Ultra low quiescent current makes this series of amplifiers ideal for portable, battery operated equipment. The common mode input range includes ground making the device useful for low-side current-shunt measurements. The ultra small packages allow for placement on the PCB in close proximity to the signal source thereby reducing noise pickup.

#### Features

- Operation from 2.7 V to 5.0 V Single-Sided Power Supply
- No Output Crossover Distortion
- Industrial temperature Range: -40C to +85C or Automotive -40C to +125C
- Rail-to-Rail Output
- Low Quiescent Current
- No Output Phase-Reversal from Overdriven Input
- NCV prefix for Automotive Qualified Version

#### Benefits

- Compatible with the most common operating conditions
- Guarantees signal integrity
- Robust thermal performance
- Reduces supply requirements
- Improves battery life and power consumption
- Predictable system behavior
- NCV321 meets automotive standards

#### Applications

- Voltage regulation
- Sensor amplification or buffering

#### End Products

- Notebook PC
- Hard disk drives
- Routers and switches
- Other portables
- Automotive

#### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Rail to Rail	Channels	V <sub>S</sub> Min (V)	V <sub>S</sub> Max (V)	I <sub>q</sub> Typ (mA)	V <sub>OS</sub> Max (mV)	GBW Typ (V/μs)	SR Typ (V/μs)	I <sub>O</sub> Typ (mA)	ΔV <sub>O</sub> /ΔT (μV/C)	e <sub>N</sub> (nV/√Hz)	I <sub>bias</sub> Typ (pA)	CMRR Typ (dB)	Architecture	Temperature Range (°C)	Package Type
LMV321SN3T1G	0.1568	Pb-free Halide free	Active	Output	1	2.5	5.5	0.08	9	1	1	160	5	50	1000	65	CMOS	-40 to 85	TSO P-5 / SOT -23-5
LMV321SQ3T2G	0.1352	Pb-free Halide free	Active	Output	1	2.5	5.5	0.08	9	1	1	160	5	50	1000	65	CMOS	-40 to 85	SC-88A / SC-70-5
NCV321SN3T1G	0.2133	Pb-free Halide free	Active	Output	1	2.5	5.5	0.08	9	1	1	160	5	50	1000	65	CMOS	-40 to 125	TSO P-5 / SOT -23-5

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