

LMV321/LMV358/LMV324

Single/Dual/Quad

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LMV321/LMV358/LMV324 Single/Dual/Quad General Purpose, Low Voltage, Rail-to-Rail Output Operational Amplifiers

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General Description

The LMV358/LMV324 are low voltage (2.7–5.5V) versions of the dual and quad commodity op amps, LM358/LMV324, which currently operate at 5–30V. The LMV321 is the single version.

The LMV321/LMV358/LMV324 are the most cost effective solutions for the applications where low voltage operation, space saving and low price are needed. They offer specifications that meet or exceed the familiar LM358/LMV324. The LMV321/LMV358/LMV324 have rail-to-rail output swing capability and the input common-mode voltage range includes ground. They all exhibit excellent speed to power ratio, achieving 1 MHz of bandwidth and 1 V/ μ s of slew rate with low supply current.

The LMV321 is available in the space saving 5-Pin SC70, which is approximately half the size of the 5-Pin SOT23. The small package saves space on PC boards, and enables the design of small portable electronic devices. It also allows the designer to place the device closer to the signal source to reduce noise pickup and increase signal integrity.

The chips are built with National's advanced submicron silicon-gate BiCMOS process. The LMV321/LMV358/LMV324 have bipolar input and output stages for improved noise performance and higher output current drive.

Features

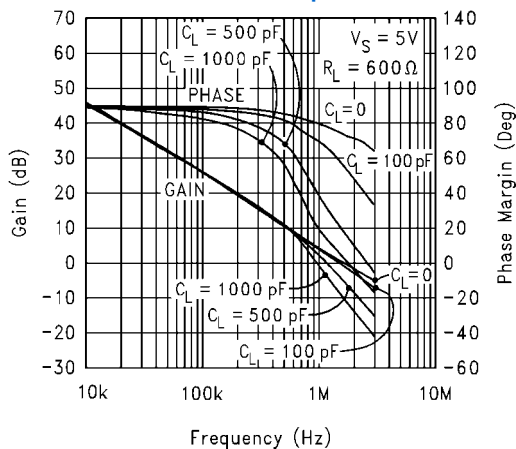
(For $V^+ = 5V$ and $V^- = 0V$, unless otherwise specified)

- Guaranteed 2.7V and 5V performance
- No crossover distortion
- Industrial temperature range -40°C to $+85^\circ\text{C}$
- Gain-bandwidth product 1 MHz
- Low supply current
 - LMV321 50 μA
 - LMV358 100 μA
 - LMV324 200 μA
- Rail-to-rail output swing @ 10 k Ω
 - $V^+ - 10\text{ mV}$
 - $V^- + 65\text{ mV}$
- V_{CM} $-0.2V$ to $V^+ - 0.8V$

Applications

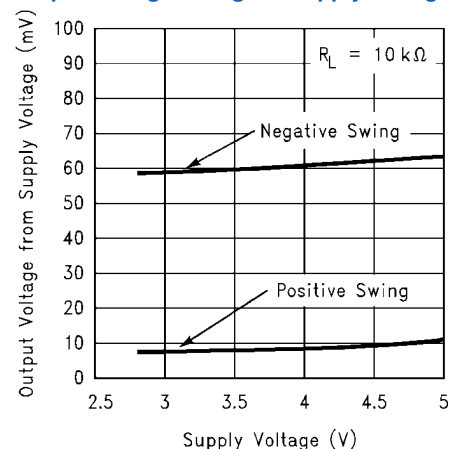
- Active filters
- General purpose low voltage applications
- General purpose portable devices

Gain and Phase vs. Capacitive Load



10006045

Output Voltage Swing vs. Supply Voltage



10006067