

40μA, 1.27MHz, Micro-Power Rail-to-Rail I/O Op Amps

Description

LMV321/358/324 are COMS single, dual, and quad OP-amps with low offset, stable high frequency response, low power, low supply voltage, and rail-to-rail inputs and outputs. They incorporate ForDevices's proprietary and patented design techniques to achieve best in-class performance among all micro-power CMOS amplifiers.

The LMV321/358/324 are unity gain stable with Any Capacitive Load with a Constant 1.20MHz gain-bandwidth product, 0.9V/μs slew rate while consuming only 40uA of supply current per amplifier. Analog trim and calibration routine reduces input offset voltage to below 3.5mV.

Adaptive biasing and dynamic compensation enables the LMV321/358/324 to achieve 'THD+NOISE' for 1kHz and 10kHz 2V_{PP} signal at -105dB and -90dB, respectively.

Beyond the rails input and rail-to-rail output characteristics allow the full power-supply voltage to be used for signal range.

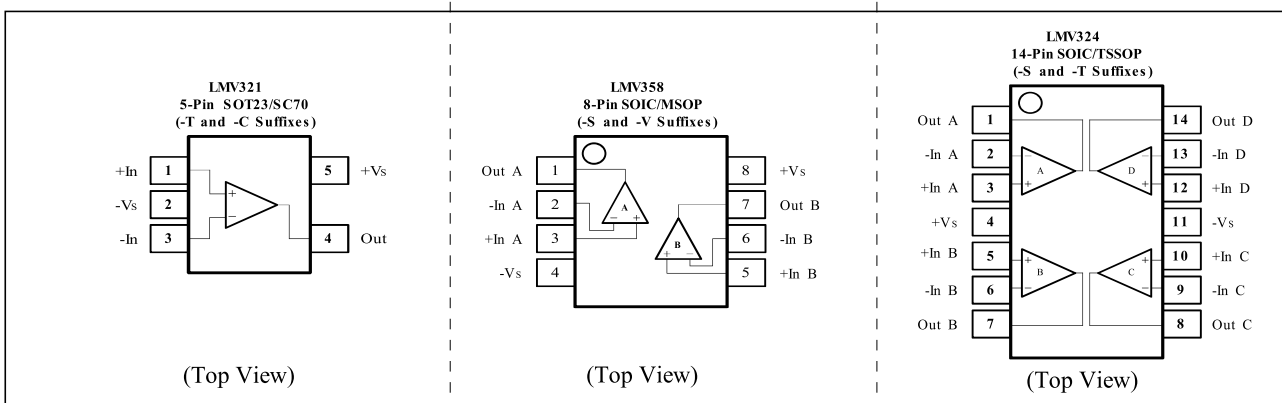
This combination of features makes the LMV321/358/324 superior among rail-to-rail input/output CMOS op-amps in its power class. The LMV321/358/324 are ideal choices for battery-powered applications because they minimize errors due to power supply voltage variations over the life time of the battery and maintain high CMRR even for a rail-to-rail input op-amp.

The LMV321/358/324 can be used as cost-effective plug-in replacements for many commercially available op amps to reduce power and improve input/output range and performance.

Order Information

Order Number	Package	Transport Media Q'ty
LMV321S5	5-Pin SC70	Tape and Reel, 3000
LMV321M5	5-Pin SOT23	Tape and Reel, 3000
LMV358S08	8-Pin SOIC	Tape and Reel, 4000
LMV358MS08	8-Pin MSOP	Tape and Reel, 3000
LMV324S14	14-Pin SOIC	Tape and Reel, 2500
LMV324TS14	14-Pin TSSOP	Tape and Reel, 3000

Pin Configuration



Features

- Stable 1.27MHz GBWP with Low I_Q of Only 40uA Typical per Amplifier
- 0.9 V/μs Slew Rate
- Unity Gain Stable for ANY CAPACITIVE Load
- Offset Voltage: 3.5mV Maximum
- Offset Voltage Temperature Drift: 0.6 uV/°C
- Input Bias Current: 1pA Typical
- THD+Noise: -105dB at 1kHz, -90dB at 10kHz
- CMRR/PSRR: 110dB/102dB
- Beyond the Rails Input Common-Mode Range
- Outputs Swing to within 5mV Typical of each Rail
- No Phase Reversal for Overdriven Inputs
- No Crossover Distortion
- Drives 2kΩ Resistive Loads
- Single +2.1 V to +6.0 V Supply Voltage Range
- -40 °C to 125°C Operation Range
- ESD Rating : Robust 8KV-HBM, 2KV-CDM and 500V-MM
- Green / Popular Type Package

Applications

- Active Filters , ASIC Input or Output Amplifier
- Smoke/Gas/ Environment Sensors
- Portable Instruments and Mobile Device
- Audio Output
- Medical Equipment
- PCMCIA Cards
- Sensor Interface
- Battery or Solar Powered Systems
- Piezo Electrical Transducer Amplifier