LDOs Double the Power Rejection of Competing Devices



Analog Devices, Inc. today introduced two low-quiescent-current LDOs (low-dropout linear regulators) that deliver outstanding supply-rejection performance to help battery-operated portable equipment run longer and more efficiently. The new ADP124 and ADP125 LDOs have excellent PSRR (power-supply-rejection ratio) performance of 60 dB at 100 kHz, which is twice that of the nearest competing LDOs, and achieve low noise of 35 μ Vrms (micro-volts per root mean squared) at 1.8 V output. Operating from an input voltage between 2.3 V and 5.5 V and providing up to 500 mA of output current down to a 0.8 V output, the new LDOs also feature a low quiescent current of 210 ?A and a 130 mV dropout voltage at a 500 mA load, which further improves portable equipment operating efficiency over a wide input-voltage range. To download the datasheet, please visit http://www.analog.com/ADP124 [1] or http://www.analog.com/ADP125 [2].

"Designing for portable products requires a small solution size, low power dissipation, and high power-supply rejection for the best mixed-signal processing performance, particularly during instances where the power supply is a hidden source of noise," said Walt Heinzer, product line manager, Power Management Group, Analog Devices. "By offering a superior 60-dB PSRR, these high-performance LDOs are 30 dB--or 30X better on a logarithmic scale--when compared to commodity LDOs that offer 25 dB or 30 dB. They surpass competitive alternatives by offering the best combination of very-low dropout, low noise, and high powersupply-rejection ratio at a very competitive price."

The ADP124 offers 31 fixed-output voltage options from 1.75 V to 3.3 V. The

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ADP125 LDO provides an adjustable output voltage between 0.8 V and 5.0 V using an external voltage divider. The ADP124 and ADP125 are specifically designed for stable operation with tiny 1 ?F ceramic input and output capacitors to meet the requirements of high-performance, space-constrained applications. The LDOs are available in a compact 2 mm x 2 mm x 0.55 mm LFCSP package or an 8-lead exposed paddle MSOP package.

Key Features and Benefits

• 60-dB PSSR at 100 kHz keeps higher frequencies from mixing into RF (radio frequency) loads resulting in improved phase-noise performance.

• An initial 1 percent accuracy provides tight tolerances for core voltage rails in FPGA applications.

• Very-low-dropout voltage of 130 mV at 500 mA minimizes power loss and allows operation further down the battery discharge curve.

 \bullet Low noise of 35 μVRMS at 1.8Vout provides clean power supply to high-

performance A/D converters without the addition of extra output bypass capacitors.

 \bullet Stability with 1 μF Cout ceramic capacitors maintains compact footprint for space sensitive applications.

Availability and Pricing

Product	Availabi lity	Vout	Price Each per 1,000	Packag e Options
ADP124	Volume producti on now	Fixed 1.75 V to 3.3 V	\$0.42	3 mm x 5 mm 8-Lead EP MSOP
				2 mm x 2 mm LFCSP-8
ADP125	Volume producti on now	Adjustabl e 0.8 V to 5 V	\$0.42	3 mm x 5 mm 8-Lead EP MSOP
				2 mm x

2 mm LFCSP-8

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Learn more about ADI's power management solutions at http://www.analog.com/power [3]

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Links:

- [1] http://www.analog.com/ADP124
- [2] http://www.analog.com/ADP125
- [3] http://www.analog.com/power