Low Noise Dual Supply Inverting Charge Pump

FEATURES

- **V_{IN} Range: 4.5V to 32V**
- **Inverting Charge Pump Generates $-V_{IN}$**
- **Charge Pump Output Current Up to 100mA**
- **Low Noise Negative LDO Post Regulator (I_{LDO}^- = 50mA Max)**
- **Low Noise Independent Positive LDO Regulator (I_{LDO}^+ = 50mA Max)**
- **100µA Quiescent Current in Burst Mode® Operation with Both LDO Regulators On**
- 50kHz to 500kHz Programmable Oscillator Frequency
- Stable with Ceramic Capacitors
- Short-Circuit/Thermal Protection
- Low Profile 3mm × 4mm 14-Pin DFN and Thermally Enhanced 16-Pin MSOP Packages

APPLICATIONS

- Low Noise Bipolar/Inverting Supplies
- Industrial/Instrumentation Low Noise Bias Generators
- Portable Medical Equipment
- Portable Instruments

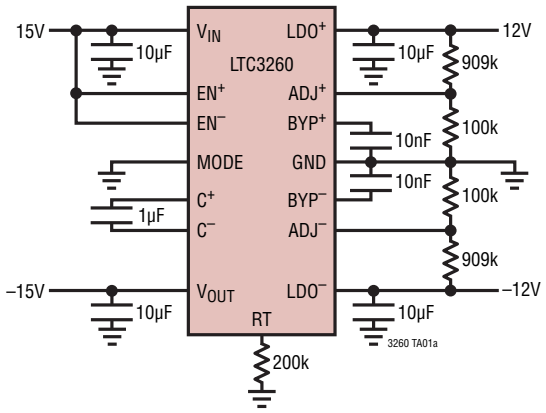
DESCRIPTION

The LTC®3260 is a low noise dual polarity output power supply that includes an inverting charge pump with both positive and negative LDO regulators. The charge pump operates over a wide 4.5V to 32V input range and can deliver up to 100mA of output current. Each LDO regulator can provide up to 50mA of output current. The negative LDO post regulator is powered from the charge pump output. The LDO output voltages can be adjusted using external resistor dividers.

The charge pump employs either low quiescent current Burst Mode operation or low noise constant frequency mode. In Burst Mode operation the charge pump V_{OUT} regulates to $-0.94 \bullet V_{IN}$, and the LTC3260 draws only 100µA of quiescent current with both LDO regulators on. In constant frequency mode the charge pump produces an output equal to $-V_{IN}$ and operates at a fixed 500kHz or to a programmed value between 50kHz to 500kHz using an external resistor. The LTC3260 is available in low profile (0.75mm) 3mm x 4mm 14-pin DFN and thermally enhanced 16-pin MSOP packages.

TYPICAL APPLICATION

±12V Outputs from a Single 15V Input



LDO Rejection of V_{OUT} Ripple