



High Voltage Boost & Inverting Charge Pumps Deliver Low Noise Dual Outputs with Post-Regulating $\pm 50\text{mA}$ LDOs

MILPITAS, CA – August 31, 2015 – Linear Technology Corporation announces the [LTC3265](#), a high voltage, highly integrated, low noise dual output power supply which takes a single positive input supply ($V_{IN,P}$) and generates low noise bipolar rails up to $\pm 2 \cdot V_{IN,P}$ without any inductors. The device includes a boost doubling charge pump, an inverting charge pump and two low dropout (LDO) regulators. The boost charge pump has a wide 4.5V to 16V input range and powers the positive LDO post regulator from its output, V_{OUT+} . The inverting charge pump has an even wider input range (4.5V to 32V) which may be connected to either the boost input or output. The negative LDO post regulator is powered from the output of the inverting charge pump, V_{OUT-} . The LTC3265 is well suited for a variety of applications that require low noise bipolar supplies from a high voltage input, such as industrial/instrumentation low noise bias generators, portable medical equipment and automotive infotainment systems.

The positive and negative LDO regulators can source up to 50mA of output current each with $100\mu V_{RMS}$ output noise, and their output voltages can be independently adjusted from $\pm 1.2\text{V}$ to $\pm 32\text{V}$ using external resistor dividers to generate symmetric or asymmetric output supply rails. The internal charge pumps of the LTC3265 function in either low quiescent current Burst Mode[®] operation for highest efficiency, or constant frequency mode for lowest noise. In Burst Mode operation, the LTC3265 draws only $135\mu\text{A}$ of quiescent current with both LDO regulators on at no load. In constant frequency mode the part operates at a fixed 500kHz, or at a programmed value between 50kHz and 500kHz using an external resistor. Other IC features include low

external parts count, stability with ceramic capacitors, soft-start circuitry to prevent excessive current flow during start-up, plus short-circuit and thermal protection.

The LTC3265 is available in a low profile (0.75mm) 3mm x 5mm 18-lead DFN package and a 20-lead TSSOP package, both with a backside thermal pad. The E- and I-grade operating junction temperature range is -40°C to 125°C regardless of package. The H grade operates from -40°C to 150°C , while the MP grade operates from -55°C to 150°C . Devices are in stock, and pricing starts at \$3.80 each for the E grade in each package type. For more information, visit www.linear.com/product/LTC3265.

Photo Caption: Low Noise Dual Supply with Boost & Inverting Charge Pumps


Summary of Features: LTC3265

- Boost Charge Pump Generates $2 \cdot V_{\text{IN,P}}$ ($V_{\text{IN,P}}$ Range: 4.5V to 16V)
- Inverting Charge Pump Generates $-V_{\text{IN,N}}$ ($V_{\text{IN,N}}$ Range: 4.5V to 32V)
- Low Noise Positive LDO Post Regulator Up to 50mA
- Low Noise Negative LDO Post Regulator Up to 50mA
- 135 μA 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 x 5mm 18-Lead DFN & Thermally Enhanced 20-Lead TSSOP Packages

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, $\mu\text{Module}^{\text{®}}$ subsystems, and wireless sensor network products. For more information, visit www.linear.com

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