



## **Dual, Low Noise Bias Generators in 3mm x 5mm QFN Offer Ultralow Noise and Ripple for Sensitive Circuit Applications**

MILPITAS, CA – September 15, 2015 – Linear Technology Corporation announces the [LT3095](#), a dual-channel IC delivering two very low noise, low ripple bias supplies from a single input. Each channel incorporates a monolithic step-up DC/DC converter post-regulated by an integrated ultralow noise and high PSRR (power supply rejection ratio) linear regulator. The LT3095 delivers up to 50mA of continuous output current at output voltages up to 20V with total ripple and noise  $< 100\mu\text{V}_{\text{p.p.}}$ . The device operates from a 3V to 20V input voltage range, making it compatible with a variety of power sources.

The LT3095's fixed-frequency, peak current-mode step-up DC/DC converters include an integrated 950mA power switch, Schottky diode and internal frequency compensation. Switching frequency is programmable between 450kHz and 2MHz via a single resistor or synchronizable to an external clock, enabling the use of tiny external components. Combined with a compact 3mm x 5mm QFN package, the LT3095 offers a simple, compact solution footprint with good efficiency for instrumentation amplifiers, RF and data conversion systems, and other low noise biasing applications.

The LT3095's linear regulators employ Linear's proprietary current-source reference architecture, providing numerous benefits such as single-resistor output voltage setting capability and bandwidth, noise, PSRR and load regulation performance virtually independent of output voltage. Integrated output noise (in a 10Hz to 100kHz bandwidth) is a mere  $4\mu\text{V}_{\text{RMS}}$  and PSRR exceeds 70dB over the entire switching frequency range, resulting in total noise and ripple

$< 100\mu\text{V}_{\text{p-p}}$ . The linear regulator adjusts the step-up converter's output voltage to 2V above the linear regulator's output voltage, optimizing power dissipation, transient response and PSRR performance. To enhance system reliability, the LT3095 offers short-circuit and thermal protection, as well as providing independent precision enable/UVLO thresholds for each channel. Micropower operation results from both EN pins being pulled low.

The LT3095's symmetric pinout simplifies PCB design. The device is housed in a thermally enhanced, 3mm x 5mm QFN-24 package, in both industrial E- & I-grade with  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$  temperature range, and military MP-grade versions operating from  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . The E grade is priced at \$2.95 in 1,000 piece quantities and all versions are available from stock. For more information, visit [www.linear.com/product/LT3095](http://www.linear.com/product/LT3095).

**Photo Caption:** Dual Low Noise Boost Generator for Biasing Applications

### Summary of Features: LT3095

- Generates Two Independent Low Noise Bias Supplies
- Boost Regulator:
  - o Wide Input Voltage Range: 3V to 20V
  - o Adjustable Switching Frequency: 450kHz to 2MHz
  - o Synchronizable to External Clock
  - o 950mA Power Switches
  - o Integrated Schottky Diodes
  - o Internal Frequency Compensation
- Linear Regulator:
  - o Wide Output Voltage Range: 1V to 20V
  - o SET Pin Reference Current: 50 $\mu\text{A}$
  - o Low Noise: 4 $\mu\text{V}_{\text{RMS}}$  (10Hz to 100kHz)
  - o High Frequency PSRR: 72dB at 1MHz
- Independent Precision-Threshold Enable Pins
- Symmetric Pinout Simplifies PCB Layout
- Thermally Enhanced 3mm x 5mm 24-Lead QFN Package

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,  $\mu$ Module<sup>®</sup> subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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