



60V, 4A Synchronous Step-Down Regulator for Inverting Outputs

MILPITAS, CA – April 7, 2016 – The [LTC7149](#) is a high efficiency, 60V, 4A synchronous buck regulator for negative output voltage supplies. It incorporates a current mode architecture with user selectable internal or external loop compensation and an output voltage that is programmed with a single external resistor. The LTC7149 operates from an input voltage range of 3.4V to 60V and provides an adjustable output voltage from 0V to –28V, while delivering up to 4A of continuous output current. Its wide input and output voltage ranges make it ideal for a wide range of test, measurement and industrial applications. The LTC7149's unique design includes an accurate internally generated 50μA current source on the ISET pin that enables it to deliver outputs as low as –28V with the use of a single external programming resistor. Furthermore, the LTC7149 offers ±0.8% output voltage accuracy. Its switching frequency is user programmable from 300kHz to 3MHz, enabling the use of tiny, low cost capacitors and inductors. Combined with a 28-lead 4mm x 5mm QFN or thermally enhanced TSSOP package, it offers a very compact solution footprint.

The LTC7149 uses internal switches with $R_{DS(ON)}$ of only 110milliohms and 50milliohms to deliver efficiencies as high as 92%. Burst Mode[®] operation offers high efficiency at light loads, requiring only 440μA of quiescent current. For noise sensitive applications, the LTC7149 can run in forced continuous mode, offering very low output ripple. It also includes ground-referenced clock and PGOOD pins, eliminating the need for level shifters. Additional features include a power good voltage monitor, programmable wire drop compensation, external synchronization capability and thermal protection.

The LTC7149EUFD is available in a 4mm x 5mm QFN-28, and the LTC7149EFE is offered in a 28-lead, thermally enhanced TSSOP package. Industrial grade versions, the LTC7149IUFD and LTC7149IFE, are guaranteed to operate over the –40°C to 125°C operating junction temperature range. Pricing starts at \$5.65 each in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/product/LTC7149.


Photo Caption: 4A Monolithic Synchronous Step-Down for Inverting Applications**Summary of Features: LTC7149**

- Wide V_{IN} Range: 3.4V to 60V
- Wide V_{OUT} Range: 0V to -28V
- Single Resistor V_{OUT} Programming
- Integrated 110m Ω Top N-Channel/50m Ω Bottom N-Channel MOSFETs
- Regulated I_Q : 440 μ A, Shutdown I_Q : 18 μ A
- Accurate Resistor Programmable Frequency (300kHz to 3MHz) with $\pm 50\%$ Frequency Sync Range
- 92% Efficiency with 12 V_{IN} & -5 V_{OUT}
- $\pm 0.8\%$ Output Voltage Accuracy
- Peak Current Mode Operation
- Burst Mode[®] Operation, Forced Continuous Mode
- Programmable Soft-Start
- Overtemperature Protection
- Available in 28-Lead 4mm x 5mm QFN & TSSOP Packages

Pricing shown is for budgetary use only and 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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