



1.5A Negative LDO Offers Fast Transient Response, Low Output Noise & Precision Current Limit

MILPITAS, CA – June 20, 2011 – Linear Technology Corporation announces the [LT3015](#), a 1.5A negative low dropout linear regulator featuring fast transient response, low noise, and precision current limit. With its wide input voltage range of -1.8V to -30V and adjustable output voltage from -1.220V to -29.5V, the device's common emitter NPN power transistor design requires only a single supply and enables a low dropout voltage of 310mV (typical at full load). Output voltage noise is only 60 μ V_{rms} over a 10Hz to 100kHz bandwidth. The LT3015 features operating current of 1.1mA and <1 μ A in shutdown, and quiescent current is well controlled in dropout. The LT3015 is the negative complement to one of Linear's popular positive LDOs, the 1.5A LT1963A, and is ideal for negative logic supplies, low noise instrumentation, industrial supplies and for post-regulating switching supplies.

The LT3015's reference-amplifier topology provides precision DC characteristics, as well as good loop stability with an extremely wide range of output capacitors, including small, low cost ceramic output capacitors. It is stable with only a 10 μ F output capacitor. These tiny external capacitors can be used without the necessary addition of series resistance (ESR) as is common with many other regulators. The LT3015 exhibits bidirectional shutdown capability that allows the device to operate with either positive or negative logic levels. Moreover, due to the LT3015's high shutdown threshold accuracy, the SHDN pin can be used to set a programmable undervoltage lockout (UVLO) threshold for the regulator input supply. Internal protection circuitry for the IC includes reverse-output protection, precision current limiting with foldback to keep the power transistor in its safe operating area, and thermal limiting with hysteresis.

The LT3015 is available in a low profile (0.75mm) 3mm x 3mm 8-lead DFN with backside thermal pad, a 12-lead MSOP package with backside thermal pad, a through-hole power TO-220 package, and a surface mount power DD-Pak package. E- and I-grade operating junction temperature is -40°C to +125°C, and the MP grade is specified from -55°C to +125°C. 1000-piece pricing for the E, I and MP grades in DFN, MSOP, TO-220 / DD-Pak starts at \$2.67

each, and devices are available from stock. For more information, visit

www.linear.com/product/LT3015


Photo Caption: LT3015 1.5A Negative LDO

Summary of Features: LT3015

- VIN Range: -1.8V to -30V
- VOUT Range: -1.22V to -29.5V (Adjustable)
- Dropout Voltage: 310mV
- Output Current: 1.5A
- Precision Current Limit with Foldback
- Stable with 10 μ F Ceramic Output Capacitor
- Low Output Noise (Without Additional Bypass Capacitor): 60 μ Vrms
- Precision Bidirectional SHDN Logic
- Fast Transient Response
- Operating Current: 1.1mA
- Shutdown Current: <1 μ A
- Tolerates Reverse Output Voltage
- Thermal Limiting with Hysteresis
- 3mm x 3mm x 0.75mm DFN-8, MSOP-12, DD-Pak-5 & TO-220-5 Packages

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 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, and μ Module[®] subsystems.

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