



Complete Ride-Through DC/DC IC Provides 1A of Uninterrupted Output Current from Main Input or Single Supercapacitor Backup Supply

MILPITAS, CA – March 10, 2014 – Linear Technology Corporation introduces the [LTC3355](#), a complete ride-through DC/DC system IC. The LTC3355 features a main buck regulator with a built-in boost converter for temporary backup, or ride-through, of V_{OUT} during a sudden loss of V_{IN} power from a single supercapacitor energy source. The device includes all functions necessary to provide seamless charging of a supercapacitor (or other storage element), including the monitoring of V_{IN} , V_{OUT} and V_{CAP} and automatic switchover to backup power. The LTC3355's nonsynchronous constant frequency current mode monolithic 1A buck switching regulator provides a 2.7V to 5V regulated output voltage from an input supply up to 20V. The device is ideal for ride-through, “dying gasp” or data backup supplies commonly used in power meters, industrial alarms and solid state drives.

The LTC3355 uses a 1A programmable constant-current/constant-voltage (CC/CV) linear charger powered from V_{OUT} to charge a single supercapacitor, electrolytic capacitor or NiMH battery. A thermal regulation loop maximizes charge current while limiting the die temperature to 110°C. When the V_{IN} supply drops below the programmable power-fail comparator input (PFI) threshold, the device's constant frequency nonsynchronous current mode 5A boost switching regulator delivers power from the supercapacitor to V_{OUT} . Backup power can be delivered to V_{OUT} with capacitor voltages as low as 0.5V. The device has programmable boost, charger and V_{IN} current limits. Other features include a V_{IN} power fail indicator, V_{CAP} power good indicator, and V_{OUT} power-on reset (POR) output.

The LTC3355 is available in a thermally enhanced 20-lead, low-profile (0.75mm) 4mm x 4mm QFN package. The device operates over a -40°C to 125°C junction temperature range and is available from stock. Pricing starts at \$3.25 each for the E grade in 1,000-piece quantities. For more information, visit www.linear.com/product/LTC3355


Photo Caption: Complete Ride-Through DC/DC System IC

Summary of Features: LTC3355

- V_{IN} Voltage Range: 3V to 20V
- V_{OUT} Voltage Range: 2.7V to 5V
- 1A Current-Mode Buck Main Regulator
- 5A Boost Backup Regulator Powered from Single Supercapacitor
- Boost Regulator Operates Down to 0.5V for Maximum Utilization of Supercapacitor Energy
- Programmable Supercapacitor Charge Current to 1A with Overvoltage Protection
- Charger Supports Single Cell CC/CV Battery Charging
- Programmable V_{IN} Current Limit
- Programmable Boost Current Limit
- V_{IN} Power Fail Indicator
- VCAP Power Good Indicator
- V_{OUT} Power On Reset Output
- Compact 20-Lead 4mm × 4mm × 0.75mm QFN Package

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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