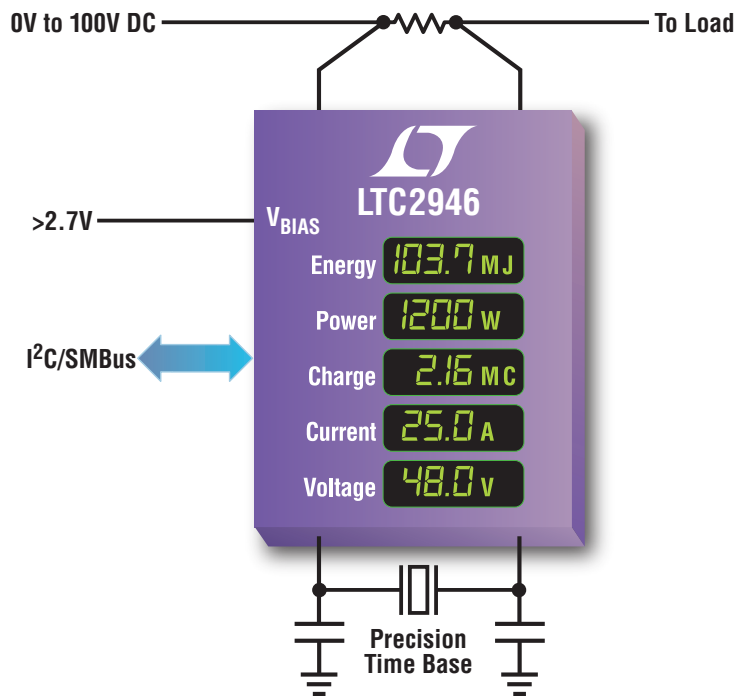


Very Wide Range I²C Energy Monitor



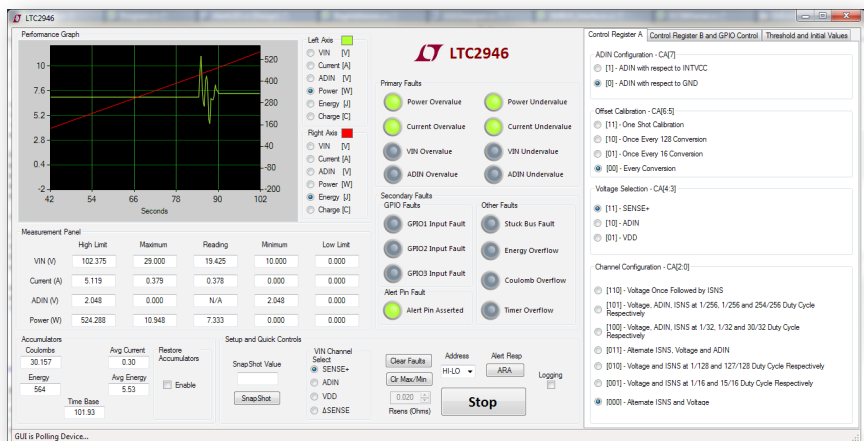
Rail-to-Rail 100V Energy Monitor Measures Current and Charge with $\pm 0.6\%$ Accuracy

The LTC[®]2946 is a very wide range I²C system monitor that monitors the energy, charge, current, voltage and power of any 0V to 100V rail. The LTC2946 has flexible power supply options, deriving power from a 4V to 100V monitored supply, a 2.7V to 100V secondary supply or from the onboard shunt regulator. These supply options eliminate the need for a separate buck regulator, shunt regulator or inefficient resistive divider while monitoring high voltages. An internal shunt regulator allows monitoring of supplies >100V and negative voltages. The LTC2946 is a simple, single-IC solution that uses an internal $\Delta\Sigma$ ADC, multiplier and internal or external time base to provide 12-bit current and voltage measurements, 24-bit power readings and 32-bit charge and energy readings.

Features

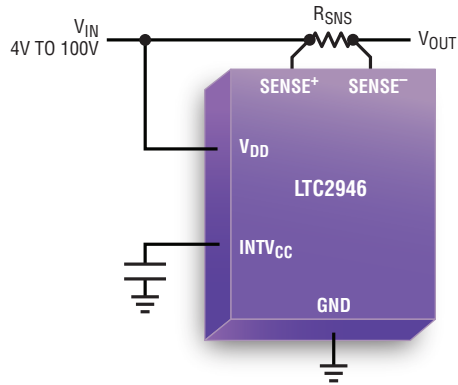
- Monitors DC Supply Voltage, Current, Charge, Power and Energy Use
- 0V to 100V Monitoring Range, >100V with Internal Shunt Regulator
- 12-Bit ADC with Scan/Snapshot Modes
- Guaranteed Accuracy: $\pm 1\%$ for Power and Energy
- Internal $\pm 5\%$ or External Time Bases
- Bias Supply Range: 4V to 100V or 2.7V to 5.9V
- Split SDA Pin Eases Opto-Isolation
- 16-Pin MSOP and 4mm x 3mm DFN Packages

LTC2946 GUI Screenshot

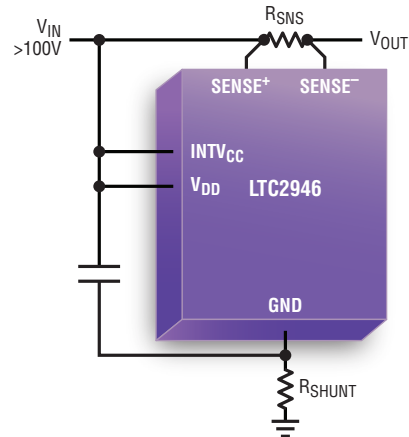


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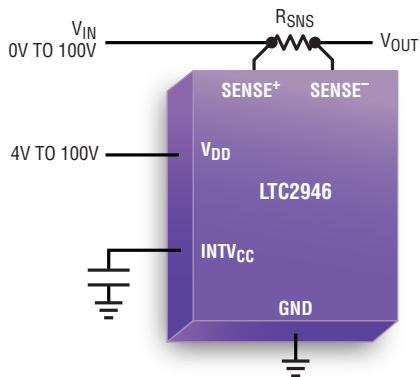
Flexible Power Supply Options



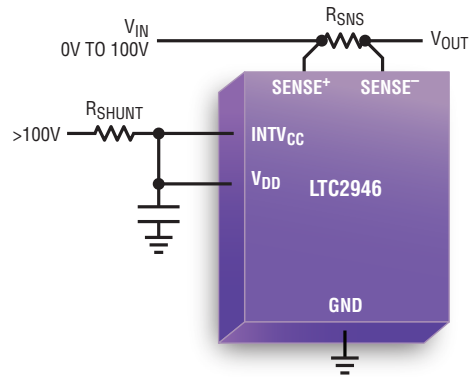
LTC2946 Derives Power from the Supply Being Monitored



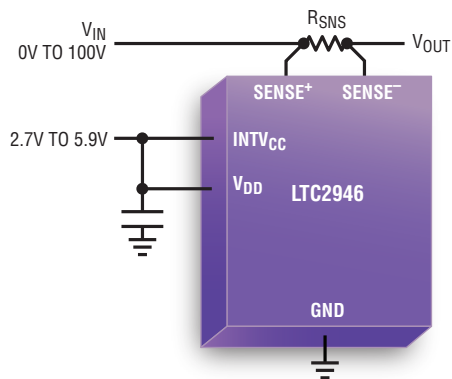
LTC2946 Derives Power Through High Side Shunt Regulator



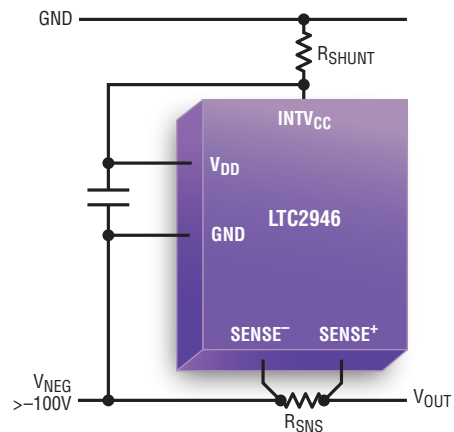
LTC2946 Derives Power from a Wide Range Secondary Supply



LTC2946 Derives Power Through Low Side Shunt Regulator in High Side Current Sense Topology



LTC2946 Derives Power from a Low Voltage Secondary Supply



LTC2946 Derives Power Through Low Side Shunt Regulator in Low Side Current Sense Topology