Integrated Point-Of-Load Voltage Regulators with 33% Smaller Footprint Dramatically Shrinks PCB Size

International Rectifier, IR® today introduced a family of SupIRBuck™ integrated point-of-load (POL) voltage regulators in a compact 4 x 5 mm package. The devices, tailored for energy-efficient server, storage, telecom, netcom and set-top box applications offer the same efficiency and functionality as previous generation devices in a 33 percent smaller footprint.

The IR38(53)(56)(59) SupIRBuck voltage regulators integrate a high performance controller with latest generation MOSFETs in a slim 4 x 5 mm PQFN package, and deliver 4 A, 6 A and 9 A output current respectively to achieve more than 96 percent peak efficiency. New features include over-voltage protection, an external synchronization option to reduce noise and EMI in multi-rail systems, true output voltage sensing option for adjustable PGOOD, and OV threshold setting.

The devices eliminate the need for traditional dual stage POL conversion and save energy, size and cost by operating directly from 12 Vin. While optimized for 12 V input voltage, superior efficiencies are also achieved in applications with single 5 V input voltages. As a result of programmable switching frequencies up to 1.5 MHz and small 4 x 5mm footprint, the new voltage regulators shrink size and cost, in addition to achieving higher power density. Moreover, the common footprint of the devices provides design flexibility and allows cut-and-paste layout for fast time-to-market.

SupIRBuck family features also include programmable hiccup current limit, programmable soft start, enhanced pre-bias start up, thermal protection, enable pin with voltage monitoring capability, Power Good output for under-voltage and over-voltage detection, +/-1 percent accurate 0.7V reference in 0° to 125°C temperature range, and -40°C to 125°C operating junction temperature.

Specifications Part Number Package Circuit VIN Range (V) VOUT Range V) IOUT(A) Switching Frequency (kHz) IR3853MTRPbF PQFN 4x5 Single Output 1.5 - 21 0.7 – 90%Vin 4 250 -1,500 IR3856MTRPbF PQFN 4x5 Single Output 1.5 - 21 0.7 – 90%Vin 6 250 -1,500 IR3859MTRPbF PQFN 4x5 Single Output 1.5 - 21 0.7 – 90%Vin 9 250 -1,500 Reference Design Featured Part VIN Range (V) VOUT Range (V) IOUT(A) Switching Frequency (kHz) IRDC3853 IR3853MPbF 12 1.8 4 600 IRDC3856 IR3856MPbF 12 1.8 6 600 IRDC3859 IR3859MPbF 12 1.8 9 600 Design Tools Datasheets and application notes are posted on the International Rectifier website at www.irf.com. The IRDC3853, IRDC3856 and IRCD3859 SupIRBuck reference designs featuring the new devices are also available. Price and Availability Pricing for the IR3853M begins at US $1.10 each in 100,000-unit quantities. The IR3856M and IR3859M cost US $1.25 and US $1.40 each respectively in 100,000-unit quantities. Pricing for the new IRDC38(53)(56)(59) SupIRBuck reference designs

starts at US $94 per kit. Production orders are available immediately. Prices are subject to change. About International Rectifier International Rectifier (NYSE:IRF) is a world leader in power management technology. IR's analog and mixed signal ICs, advanced circuit devices, integrated power systems and components enable high performance computing and reduce energy waste from motors, the world's single largest consumer of electricity. Leading manufacturers of computers, energy efficient appliances, lighting, automobiles, satellites, aircraft and defense systems rely on IR's power management benchmarks to power their next generation products. For more information, go to www.irf.com. Patent and Trademark Notice IR® and SupIRBuck™ are registered trademarks of International Rectifier Corporation. All other product names noted herein may be trademarks of their respective holders. For more information, contact Sian Cummins, scummin1@irf.com, 310-252-7148. --30--

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