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ON Semiconductor Introduces New Linear Constant Current Regulators as Cost-Effective Discrete Solution for Regulating Current in LEDs

Two-terminal linear constant current regulators deliver simple, economical and robust current regulation for automotive, industrial signage and architectural LED lighting applications

PHOENIX, Ariz. – May 19, 2009 - ON Semiconductor (Nasdaq: ONNN), a leading global supplier of high performance, energy efficient, silicon solutions, today introduced a new series of two-terminal linear [constant current regulators](#) ideal for driving current in automotive, industrial signage and architectural [LED lighting applications](#). The new constant current regulators operate over a wide range of input voltages and provide engineers a simple and cost-effective solution for regulating current in their applications without compromising on performance.

"ON Semiconductor continues to deliver a wide array of LED driving solutions for a broad range of applications," said Dan Huettl, director and general manager for ON Semiconductor's Small Signal Division. "The new constant current regulator solution does not require any external components, reduces inventory cost and offers our customers an extremely simple, economical and yet robust device to easily incorporate in their lighting designs."



About the devices

The new series of constant current regulators are based on patent-pending self biased transistor technology and are targeted for a broad range of LED application with varying input voltage. By regulating the voltage over the wide range, the devices ensure constant brightness over the operating voltage range. The series is designed with a negative temperature coefficient to protect LEDs from thermal runaway at extreme voltage and operating temperatures.

The [NSI45 series](#) of constant current regulators are offered in 20 milliamp (mA), 25 mA and 30 mA device options available in a SOD-123 package and in a SOT-223 package. These devices are available in plus/minus (\pm)10 percent and (\pm 15) percent steady state regulated current (Ireg) tolerance. The series is rated at 45 volts (V) with operating temperature range of -40 °C to 85 °C and maximum junction temperature of 150 °C. The SOD-123 package is 3.7 mm x 1.6 mm x 1.2 mm surface mount package and can dissipate 230 milliwatts (mW) of power at 85 °C with 500 mm / 1 ounce copper on the board. The SOT-223 is 7.0 mm x 6.5 mm x 1.6 mm surface mount package, dissipates 630 mW of power at 85 °C with 500 mm / 1 ounce copper on the board and is ideal for extreme thermal operating environments. The devices are qualified to stringent automotive standard of AEC101. In addition, these devices are lead-free RoHS compliant and use halogen-free mold compound.

The NSI45 in SOD-123 package is priced at \$0.0545 per unit in 10,000 quantities. The NSI450 in SOT-223 package is priced at \$0.090 per unit in 10,000 quantities.

For additional technical information visit <http://www.onsemi.com> or contact Steve Sheard at steve.sheard@onsemi.com.

About ON Semiconductor

With its global logistics network and strong product portfolio, ON Semiconductor (NASDAQ: ONNN) is a preferred supplier of high performance, energy efficient, silicon solutions to customers in the power supply, automotive, communication, computer, consumer, medical, industrial, mobile phone, and military/aerospace markets. The company's broad portfolio includes power, analog, DSP, mixed-signal, advance logic, clock management, non-volatile memory and standard component devices. Global corporate headquarters are located in Phoenix, Arizona. The company operates a network of manufacturing facilities, sales offices and design centers in key markets throughout North America, Europe, and the Asia Pacific regions. For more information, visit <http://www.onsemi.com>.

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