



NXP Brings Standard Packages to RF Power

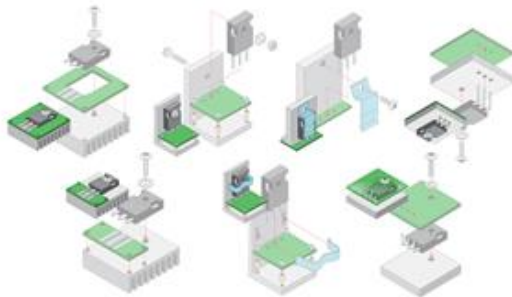
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New RF Power Transistors Simplify Design and Manufacturing

EINDHOVEN, The Netherlands, June 05, 2018 (GLOBE NEWSWIRE) -- Ease of use and design re-use across frequencies have not traditionally been associated with RF power solutions — until now. Today NXP Semiconductors N.V. (NASDAQ:NXPI), the leader in RF power, introduces two new power blocks that promise to become a new standard for years to come.



New Transistors from NXP Semiconductors



Mounting configuration diagram for MRF300AN and MRF300BN Transistors

The simplicity of these new devices lies in the availability of laterally diffused metal oxide semiconductor (LDMOS) technology for RF transistors in ubiquitous TO-247 and TO-220 power packages, that come with well established assembly processes. This is augmented with the simultaneous availability of very compact reference circuits that can be reused from 1.8 Megahertz (MHz) to 250 MHz. This results in considerable savings, fast time to market and optimized supply chain for most High Frequency (HF) and Very High Frequency (VHF) power systems.

Removing Barrier to Entry for RF Power

NXP's new RF solutions include the MRF101AN 100 watt (W) transistor that is housed in the TO-220 package, and the MRF300AN 300 W transistor that is housed in the TO-247 package. While current plastic packages for high power RF require a precise solder reflow process, these transistors can be assembled to a printed circuit board (PCB) using a standard through-hole technology, reducing costs. Heatsinking is also simplified since the transistors can be mounted vertically to a chassis, or in more creative and versatile ways such as under the PCB. This opens many options for the mechanical design, contributing to lower the Bill of Materials (BoM) and reduce time to market.

"RF Power is moving increasingly into new applications, where the requirements for ease of use, high performance and versatility are essential," said Pierre Piel, senior director and general manager for multi-market RF power at NXP. "We continue our mission to ease the use of RF Power by delivering solutions that minimize design requirements, reduce time to market and simplify the supply chain for our customers."

Flexibility Without Compromise on Performance

At 40.68 MHz, the MRF300AN outputs 330 W Continuous Wave (CW), with 28 decibels (dB) of gain and 79 percent efficiency. As part of NXP's series of extremely rugged transistors, the family is designed for use in unforgiving industrial applications and can withstand 65:1 Voltage Standing Wave Ratio (VSWR).

This performance is supported by 2 x 3 inch (5.1 x 7.1 centimeters) power block reference designs that use cost-effective PCB material. With only a change of coils and discrete components, and no change to the PCB layout, the board can be adapted to support any other frequency from 1.8 to 250 MHz. This ensures quick design cycle for RF designers to develop power amplifiers that address new markets.

For even more flexibility, each transistor comes in two configurations. For example, the MRF101BN mirrors the pin-out of the MRF101AN, enabling a compact push-pull layout to address wideband applications without compromise on efficiency.

The MRF101AN and MRF300AN target Industrial, Scientific and Medical (ISM) applications as well as HF and VHF communications. A new market is also expected with switch-mode power supply, since this technology enables switching at higher frequencies than existing solutions, reducing the size of other components of the BoM. The devices are part of NXP's Product Longevity Program guaranteeing availability for 15 years.

Availability

The MRF300AN is available now. The MRF101AN is currently sampling, with production expected in September 2018. Reference circuits for the MRF300AN are available for 27 MHz, 40.68 MHz, 81.36 MHz and 230 MHz. For pricing or additional information, please contact your local NXP sales office or approved distributor.

To learn more, visit NXP at the International Microwave Symposium (IMS 2018) June 10-18 at booth #739 or at www.nxp.com/RF.

About NXP Semiconductors

NXP Semiconductors N.V. (NASDAQ:NXPI) enables secure connections and infrastructure for a smarter world, advancing solutions that make lives easier, better and safer. As the world leader in secure connectivity solutions for embedded applications, NXP is driving innovation in the secure connected vehicle, end-to-end security & privacy and smart connected solutions markets. Built on more than 60 years of combined experience and expertise, the company has 30,000 employees in more than 30 countries and posted revenue of \$9.26 billion in 2017. Find out more at www.nxp.com.

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