NXP Solid-State RF Power Transistors Transform Cooking Appliances

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More precise heating energy directed at food enables a new wave of advanced cooking appliances for dramatically improved consistency, taste and nutrition

NXP Semiconductors today announced four new laterally diffused metal oxide semiconductor (LDMOS) RF power transistors that allow designers of solid-state cooking solutions to customize their products in both frequency and RF output power. They were designed exclusively to be used in cooking appliances and are incorporated within NXP's new solid-state RF cooking module, also announced today.

The new NXP MHE1003, MHT1004, MHT1006, and MHT1008 transistors join the industry's best-performing RF product portfolio for RF cooking, which offers the potential to revolutionize the cooking experience.

Solid-state cooking uses RF power transistors rather than a vacuum tube (magnetron) or resistive element to provide the power required to heat the food, which significantly improves the cooking process by precisely positioning and varying the amount of required energy. This not only preserves the food's nutritional value by retaining moisture and nutrients better than any other cooking method, it allows different foods to be cooked simultaneously as well. For example, a plate of drumsticks, carrots, and potatoes can be cooked at different temperatures to produce chef-quality meals in a fraction of the time while minimizing the effort on the part of the cook.

Unlike magnetrons, or other filament based RF power sources, RF power transistors have an operating life of years versus hours, maintain output power with no degradation, and operate at safer low voltages as well. The new transistors are essential ingredients in NXP's new solid-state cooking module, which dramatically reduces the time required to create custom solid-state, intelligent, connected solid-state cooking applications.

About the solid-state RF cooking solutions

NXP's RF cooking portfolio cover the three frequencies, 915 MHz, 2450 MHz, and below 600 MHz used by solid-state cooking appliances. The portfolio includes both driver-stage and final-stage transistors.

Features include:

MHE1003 (26-28 V): final stage driver with 220 W output CW, 65% efficiency, and 15 dB gain, housed in a OM780 over-molded plastic package

MHT1004 (28-32 V): final stage driver with 300 W output CW, 63% efficiency, and 15 dB gain, housed in a OM780 over-molded plastic package

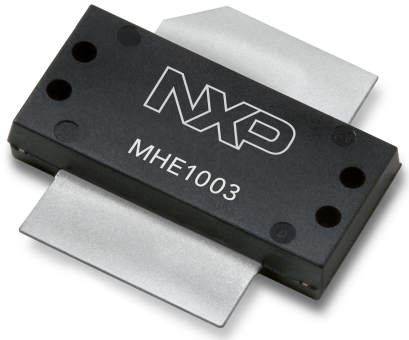
MHT1006 (28-32 V): driver with 10 W output CW, 55% efficiency, and 17 dB gain, housed in a PLD over-molded plastic package

MHT1008 (28-32 V): driver with 12 W output CW, 55% efficiency, and 17 dB gain, housed in a PLD over-molded plastic package.

Availability and development support:

The transistors are currently available in sample quantities. The MHT1006 is in production now. Production is planned in Q3 for the MHE1003, MHT1004 and MHT1008 and optimized reference boards will be available.

For more information about solid-state RF cooking, visit www.nxp.com/RFcooking.


MHE1003