

New Product Announcement

IXYS Launches 300V Ultra-Junction X3-Class Power MOSFETs Featuring Benchmark On-Resistance and Gate Charge Figure of Merit

Milpitas, CA. April 25, 2018 – IXYS LLC, now part of Littelfuse, Inc., a global manufacturer of power semiconductors and integrated circuits (ICs) for energy efficiency, power management, transportation, medical, and motor control applications, today announced a new power semiconductor product line: 300V Ultra-Junction X3-Class HiPerFET™ Power MOSFETs. With on-resistances and gate charges as low as 4.6 milliohms and 22 nanocoulombs, respectively, they are optimized for both hard and soft switching power conversion applications.

Like other Ultra Junction products from IXYS, these new devices have been developed using a charge compensation principle and proprietary process technology, resulting in Power MOSFETs with the best-in-class Figure of Merit (on-resistance times gate charge). They exhibit the lowest on-state resistances in the industry (5.5 milliohms in the TO-264 package and 4.6 milliohms in the SOT-227, for instance), enabling the highest power densities and energy efficiencies in power systems.

With ultra-low reverse recovery charge and time, the fast body diodes are capable of removing all leftover energies during high-speed switching to avoid device failure and achieve high efficiency. Additionally, the new MOSFETs display a superior dv/dt performance (up to 20V/ns) and are avalanche capable. As such, these rugged devices require fewer snubbers and can be used in hard-switching or resonant power converters.

Targeted applications include synchronous rectification for telecom power supplies, motor control (48V-110V systems), uninterruptible power supplies, high performance Class-D audio amplifiers, DC-DC converters, solar inverters, and multilevel inverters.

With 25 parts currently available, this is the broadest 300V Ultra-Junction MOSFET product line in the industry. They are housed in the following international standard size packages: TO-3P, TO-220 (overmolded or standard), TO-247, PLUS247, TO-252, TO-263, TO-264, TO-268HV, SOT-227. Some example part numbers include IXFY26N30X3, IXFA38N30X3, IXFT150N30X3HV and IXFN210N30X3, with current ratings of 26A, 38A, 150A, and 210A, respectively.

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