



Rad hard MOSFETs & ICs product selector

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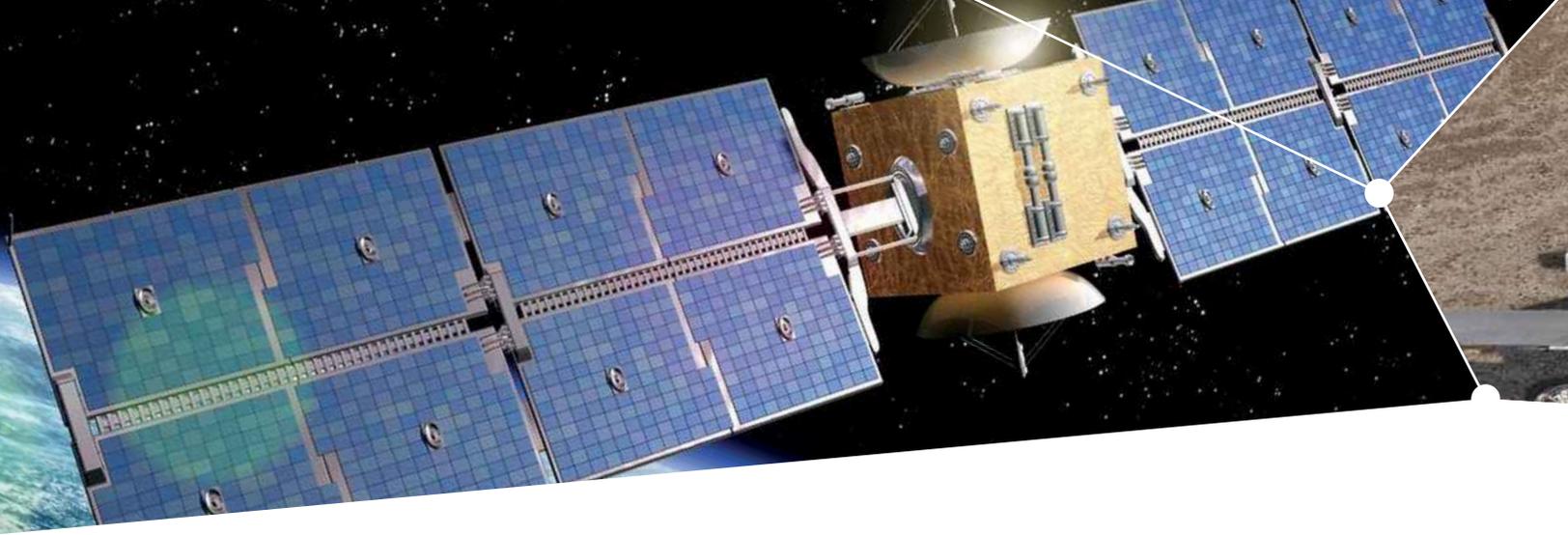
IOR HiRel
An Infineon Technologies Company



With the introduction of the industry's first rad hard MOSFET in 1987 to its latest generation of devices, IR HiRel has continually exceeded engineers expectations.

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High-reliability power conversion solutions for space

Space and other harsh environment applications pose unique challenges for system designers. Electronics must be able to withstand severe thermal, mechanical, and radiation conditions with expected lifespans measured in decades.

Infinion, along with its IR HiRel subsidiary, is your source for high-reliability electronics for space use. We offer a unique portfolio of high-reliability, radiation-hardened (rad hard) power management solutions for extreme environments, such as those found in space, aerospace, defense and other industries. Our extensive portfolio includes:

- › Standard and custom high-reliability, rad hard and ruggedized discretes and integrated circuits
- › Microwave transistors and diodes
- › Defense, space and high temperature DC-DC converters
- › Other space components

Our HiRel products are used throughout spacecraft electrical power systems, and proven across thousands of programs globally that are still in flight today. Whether you're designing satellite buses, payloads, RF communications, or other spacecraft systems, we offer a broad selection of rad hard solutions qualified to European Space Agency (ESA) and Defense Logistics Agency (DLA) standards for our global customers.

Decades of space heritage in thousands of programs

An Infineon Technologies company, IR HiRel is a leader in rad hard power MOSFETs, having invented the HEXFET™ MOSFET in 1977 and becoming the first manufacturer to offer rad hard power MOSFETs for space in 1987. Since then, IR HiRel has continuously innovated in silicon design, packaging technology and quality with US DoD DLA QPL products up to MIL-PRF-19500 JANS level.

Infinion is likewise renowned globally in the space community for its flight heritage, having qualified the world's first rad hard superjunction MOSFET technology in 2012, and offering device qualification for its rad hard PowerMOS transistor portfolio per ESA ESCC 5000.

Customers benefit from our unparalleled expertise in power MOSFET radiation requirements. Our products and solutions are engineered for optimal performance and longevity in extreme environmental conditions, including exposure to severe ionizing radiation in space. Together, Infineon and IR HiRel offer the broadest portfolio of space power MOSFETs for applications in geosynchronous and geostationary orbit (GEO), Medium Earth Orbit (MEO) and Low Earth Orbit (LEO).



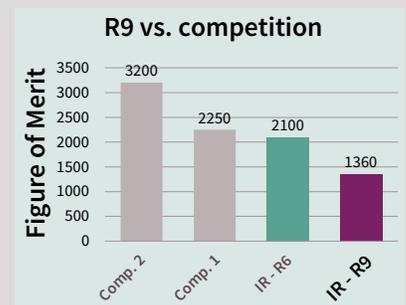
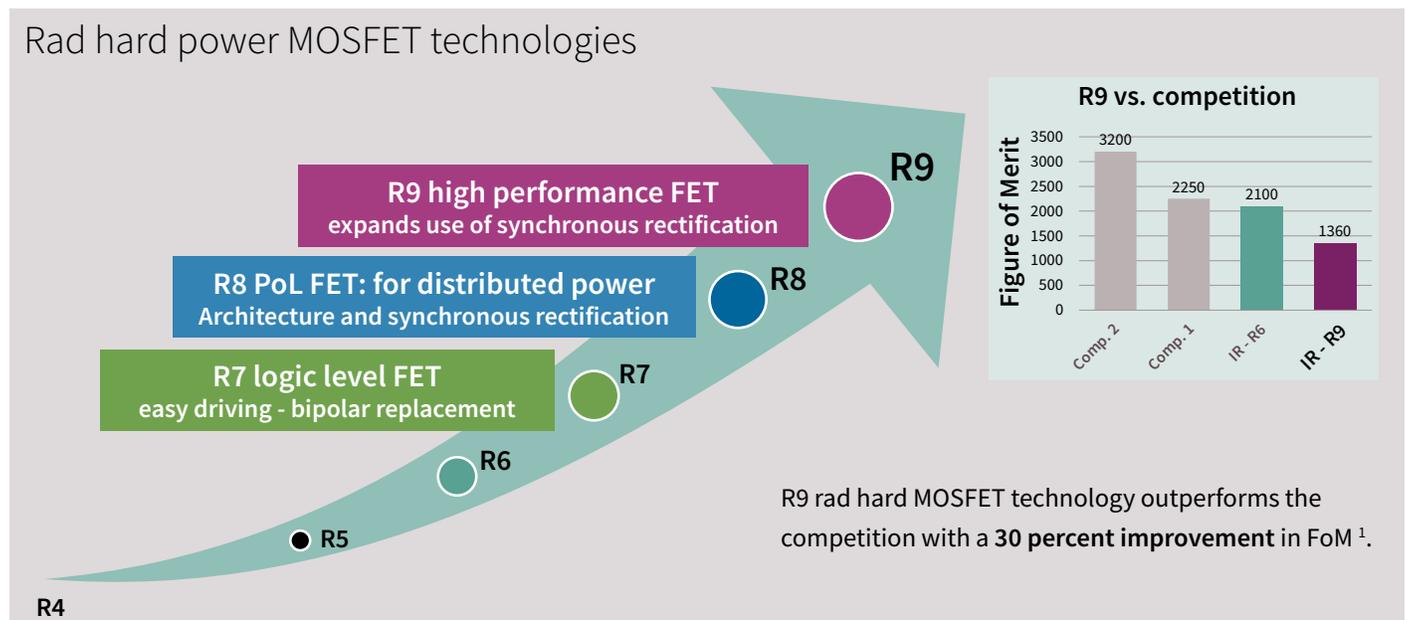
R9 superjunction technology: greater density, lower power losses

Our new R9 superjunction technology platform offers notable size, weight and power improvements over prior rad hard MOSFET generations, delivering superior performance and efficiencies with a well-known gate drive setup. A simple drop-in to the same circuit designs yields immediate efficiency improvements. In systems such as high-throughput satellites, using R9-based rad hard MOSFETs can significantly reduce cost-per-bit ratio. Our radiation-hardened N- and P-channel R9 MOSFETs are engineered for mission-critical

applications requiring an operating life up to and beyond 15 years, such as:

- > Space-grade DC-DC converters
- > Intermediate bus converters
- > Motor controllers
- > Other high-speed switching designs
- > High-side, low frequency load switching
- > Overload protection switching

Rad hard power MOSFET technologies



R9 rad hard MOSFET technology outperforms the competition with a **30 percent improvement in FoM**¹.

¹ Figure of Merit is $R_{DS(on)} \times Q_g$ (Gate Charge)

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