

Teledyne e2v HiRel and GaN Systems Unveil High Reliability 100V GaN Power HEMT

High voltage GaN Power HEMT now shipping with the bottom-side cooled GaNPX® packaging

MILPITAS, CA – February 19, 2020 – [Teledyne e2v HiRel](#) is launching a new, ruggedized 100V/90A GaN power HEMT (High Electron Mobility Transistor) based on industry-leading technology from [GaN Systems](#).

The new GaN power HEMT, [TDG100E90](#), is now available with a bottom-side cooled package for all applications requiring extremely high reliability, in particular space and military. It joins the recently announced 650V, 60A TDG650E60, and is available to provide a lower step-down voltage in high reliability power circuitry.

Gallium nitride devices have revolutionized power conversion in other industries and are now available in radiation tolerant, plastic encapsulated packaging that has undergone stringent reliability and electrical testing to ensure mission critical success. The release of the TDG100E90 GaN HEMT delivers the efficiency, size, and power-density benefits required in demanding HiRel power applications.

For all product lines, Teledyne e2v HiRel performs the most demanding qualification and testing tailored to the highest reliability applications. This regimen includes sulfuric test, high altitude simulation, dynamic burn-in, step stress up to 175°C ambient, testing at 9V gate voltage, and full temperature testing.

This new addition to Teledyne's GaN Power HEMT family boasts an extremely small form factor and leverages the patented Island Technology® from GaN Systems. This technology is a scalable, vertical charge dissipating system that gives the power transistor ultra-low thermal losses, high power density, no-charge storage, and very high switching speeds.

Compared to Silicon MOSFET devices, the GaN-based TDG100E90 HEMT significantly reduces losses and EMI, due to no reverse recovery characteristics. To reduce drain-source on resistance ($R_{DS(on)}$) or increase the load current, the TDG100E90 can easily support parallel driving configuration. The use of high performance GaNPX® packaging allows very high frequency switching, extremely low inductance, and excellent thermal characteristics, enabling customers to significantly reduce the size and weight of power electronics.

"Teledyne e2v HiRel is pleased to be working with GaN Systems on solutions for the most demanding requirements in key applications for avionics, radar, satcom, space, and more," said Mont Taylor, VP of Business Development for Teledyne e2v HiRel. "In addition to the currently released TDG650E60 650V GaN HEMT, the TDG100E90 compliments our portfolio with a lower voltage, higher current option providing GaN flexibility and choices to the HiRel power design community."

Qualified TDG100E90 devices with bottom-side cooling are now shipping and available for immediate purchase. Customers may review the [datasheet here](#).

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About Teledyne e2v HiRel Electronics

Teledyne e2v HiRel Electronics innovations lead developments in space, transportation, defense, and industrial markets. Teledyne e2v's unique approach involves listening to the market and application challenges of customers and partnering with them to provide innovative standard, semi-custom or fully-custom solutions, bringing increased value to their systems. For more information, visit <http://www.tdehirel.com>.

About GaN Systems

GaN Systems is the global leader in GaN power semiconductors with the largest portfolio of transistors that uniquely address

the needs of today's most demanding industries including data center servers, renewable energy systems, automotive, industrial motors, and consumer electronics. As a market-leading innovator, GaN Systems makes possible the design of smaller, lower cost, more efficient power systems. The company's award-winning products provide system design opportunities free from the limitations of yesterday's silicon. By changing the rules of transistor performance, GaN Systems is enabling power conversion companies to revolutionize their industries and transform the world. For more information, please visit: www.gansystems.com or follow GaN Systems on [Facebook](#), [Twitter](#) and [LinkedIn](#).

About Teledyne Defense Electronics

Serving Defense, Space and Commercial sectors worldwide, Teledyne Defense Electronics offers a comprehensive portfolio of highly engineered solutions that meet your most demanding requirements in the harshest environments. Manufacturing both custom and off-the-shelf product offerings, our diverse product lines meet emerging needs for key applications for avionics, energetics, electronic warfare, missiles, radar, satcom, space, and test and measurement . www.teledynedefelec.com. TDE is a business unit of Teledyne Technologies, Inc., a leading provider of sophisticated instrumentation, digital imaging products and software, aerospace and defense electronics, and engineered systems. www.teledyne.com.

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