

Teledyne e2v HiRel Unveils Two High Power GaN HEMTs to its 650 V Family

High voltage GaN HEMTs for hi-rel applications now available in lower current 15 A and 30 A versions

MILPITAS, CA – January 6, 2021 – [Teledyne e2v HiRel](#) is adding two new, ruggedized GaN power HEMTs (High Electron Mobility Transistors) to its industry-leading, 650-volt, [high-power family of products](#) based on GaN Systems technology.

The two new high-power HEMTs, [TDG650E30B](#) and [TDG650E15B](#), deliver lower current performance of 30- and 15-amp respectively, while the original 650 V introduced last year, the [TDG650E60](#), delivers 60 A.

These 650 V GaN HEMTs are the highest voltage GaN power devices available on the market for demanding high-reliability military, avionics, and space applications. They are an ideal fit for applications like power supply, motor control, and half bridge topologies.

They come with a bottom-side cooled configuration and feature ultra-low FOM Island Technology® die, low inductance GaNPX® packaging, very high frequency switching of >100 MHz, fast and controllable fall and rise times, reverse current capability, and more.

“We are pleased to continue the build-out of our 650 V family of high power GaN HEMTs for applications requiring the highest reliability such as space.” said Mont Taylor, VP of Business Development for Teledyne e2v HiRel. “We believe the smaller sized packaging of these new devices will really benefit customers designing for the highest power density projects.”

The TDG650E15B and TDG650E30B are both enhancement mode GaN-on-Silicon power transistors that allow for high current, high voltage breakdown and high switching frequency while offering very low junction-to-case thermal resistance for high-power applications.

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 these new GaN HEMTs delivers to customers the efficiency, size, and power-density benefits required in critical aerospace and defense power applications.

For all product lines, Teledyne e2v HiRel performs the most demanding qualification and testing tailored to the highest reliability applications. For power devices, this regime includes sulfuric test, high altitude simulation, dynamic burn-in, step stress up to 175°C ambient, 9-volt gate voltage, and full temperature testing. Unlike silicon on carbide (SiC) devices, these two devices can easily be implemented in parallel to increase the load current or lower the effective RDSon.

Both of these new devices are now available for ordering and immediate purchase.

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About Teledyne e2v HiRel

Teledyne e2v HiRel innovations lead developments in space, transportation, defense, and industrial markets. Teledyne e2v HiRel’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 www.teledynedefelec.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.

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