

## Press Release

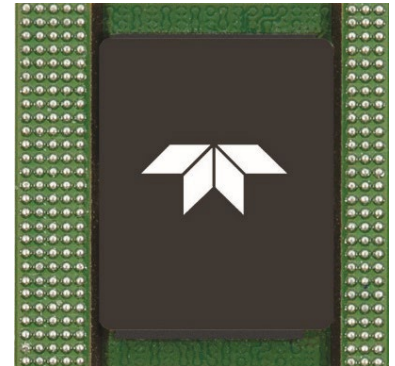
### Teledyne HiRel Semiconductors Announces High-Density 16 GByte DDR4 Module

*High-speed dynamic memory in an ultra-compact module for aerospace and defense high-reliability applications*

**MILPITAS, CA – July 24, 2025** — [Teledyne HiRel Semiconductors](#), a leader in ruggedized semiconductors for mission-critical environments, today announced the release of the TDD416Y12NEPBM01, a compact DDR4 memory module, screened and qualified as an Enhanced Product (EP) and rated for operation from –40°C to +105°C.

The TDD416Y12NEPBM01, is a compact, solder-down DDR4-3200 memory solution that delivers high bandwidth in a dramatically reduced footprint – smaller than a postage stamp. Packaged in a 216-ball BGA measuring just 22mm x 22mm, it is engineered for systems where board space is limited and performance is critical.

Its streamlined design integrates memory, termination, and passives into a single unified 22mm<sup>2</sup> module — effectively replacing multiple discrete components and simplifying layout complexity. Unlike monolithic ECC memory modules, the TDD416Y12NEPBM01 supports error correction through an optional companion ECC. This architecture offers key technical advantages such as thermal isolation, design flexibility and cost savings.



The TDD416Y12NEPBM01 module was developed to meet the growing need for embedded platforms that demand high-speed memory in tight enclosures. Whether routing alongside modern SoCs, CPUs, or FPGAs, the module offers clean signal integrity, and thermal flexibility. It pairs well with processors that support x64 or x72 memory buses, including, Xilinx Versal, Microchip PolarFire, NXP Layerscape, Xilinx Ultrascale+, Intel Atom, as well as Teledyne's own [LS1046-Space](#) and a wide range of ARM-based compute cores. In keeping with industry trends, the DDR4 delivers 42% power savings, 42% jitter reduction, and 39% PK/PK savings when compared to traditional SODIMMs.

"This module approach gives customers the freedom to tailor reliability to each mission profile," said Mont Taylor, Vice President of Business Development at Teledyne HiRel. "It's ideal for mixed deployments. The real strength of the TDD416Y12NEPBM01 lies in its versatility — socketless installation, reduced BOM, and a fully self-contained design. We're helping system architects shrink their memory footprint without sacrificing bandwidth."

For more information on this device, please click [here](#). To explore Teledyne HiRel's full portfolio of semiconductors, converters, processors, and related services, visit the Teledyne HiRel Semiconductors [website](#).

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#### ABOUT TELEDYNE HIREL SEMICONDUCTORS

Teledyne HiRel's innovations lead developments in space, transportation, defense and industrial markets. Teledyne 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.tdehirel.com](http://www.tdehirel.com)

#### ABOUT TELEDYNE AEROSPACE & DEFENSE ELECTRONICS

Teledyne Aerospace & Defense Electronics offers a comprehensive portfolio of highly engineered solutions that meet the most demanding requirements, in the harshest environments. Manufacturing both custom and off-the-shelf product offerings, our diverse product lines meet the current and emerging needs of key applications for avionics, energetics, electronic warfare, missiles, radar and surveillance, satellite communications, air and space, and test and measurement. [www.teledyneADE.com](http://www.teledyneADE.com)

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