

KD Celebrates ZF Implementing 10GBASE-AU Port with KD's KD7251 Transceiver

Optical Multigigabit Ethernet Enters Software-defined Vehicles

Madrid, Spain. May 13, 2025: KD, a fabless semiconductor company, proudly announced a technical collaboration with ZF Group, Germany-based global technology company, to integrate their KD7251 transceiver into ZF's ProAI ECU. The companies are working together to further enable ZF's ProAI high-performance computer with optical multigigabit communications capabilities. With the KD7251, KD provides the first optical transceiver to enable the transmission of data via automotive-grade optical fibers in accordance with the IEEE 802.3cz standard. Oliver Briemle, Head of Cross-Domain Computing at ZF, is convinced that optical multigigabit Ethernet offers considerable advantages for various vehicle classes:

"At ZF, we've identified this ultra-fast transmission as a key technology for future vehicle electrical systems. The technology enables both short- and long-distance transmissions of up to 40 meters for cars and commercial vehicles. Test results show that optical multigigabit Ethernet is a versatile and future-proof solution for data communications."

Solving Data Transmission Challenges in Vehicles

The implementation of KD's high-speed connectivity over fiber optics by ZF Group is a major milestone of converting the IEEE Std 802.3cz specifications into real products and applications. Carlos Pardo, CEO and Co-founder of KD, confirmed strongly:

"At KD, we're excited to contribute to this evolution with our automotive optical transceiver KD7251, which supports the IEEE Std 802.3cz standard and enables multigigabit communications with multi-mode glass optical fiber. This latest implementation in mainstream automotive networking further verifies our vision and path of utilizing fiber optics"

communications to solve connectivity challenges in harsh environments.”

Enabling Multigigabit Communications in Automotive Systems

KD's latest transceiver KD7251 implements the BASE-AU physical layers and is compliant with the IEEE Std 802.3cz™ standard specification for automotive multigigabit optical communications over glass optical fiber links. It is a single-chip solution with on-chip optical interface, supporting 2.5, 5, and 10 Gb/s. The transceiver includes bridging functionalities to enable the connectivity of MIPI sensors, as cameras and radar (CSI-2®), displays (DSI-2SM), or AI processors (PCIe®) in the vehicle.

The KD7251 reaches 40 meters with 4 inline connectors over standard duplex OM3 multi-mode glass optical fiber (MM-GOF) at 10 Gb/s in the whole temperature range. The same cables and connectors will be reused for higher bitrates (25, 50 Gb/s and higher in the future). With its integrated EMC shielding, the KD7251 transceiver guarantees the highest component-level EMC compliance without the need for any external additions. This translates into a port with a small PCB area and a reduced Bill of Materials (BOM), with no need for ESD protections, common mode chokes, EMI filters or DC blocks.

As native automotive part, the KD7251 supports MACsec, ASIL-B FuSa, TSN, Wake-up & Sleep, OAM, and dependability functions. Thus, the transceiver enables a broad range of use cases with optical technology, such as multigigabit Ethernet backbone, zonal gateway connectivity, smart antenna link, and connectivity for radars, cameras, lidar, displays, and high-performance computing units.

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More information

ZF Press release: https://press.zf.com/press/en/releases/release_84101.html

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Image



Carlos Pardo is CEO and Co-founder of KD

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About ZF

ZF is a global technology company supplying advanced mobility products and systems for passenger cars, commercial vehicles and industrial technology. Its comprehensive product range is primarily aimed at vehicle manufacturers, mobility providers and start-up companies in the fields of transportation and mobility. ZF electrifies a wide range of vehicle types. With its products, the company contributes to reducing emissions, protecting the climate as well as enhancing safe mobility. Alongside the automotive sector – passenger cars and commercial vehicles – ZF also serves market segments such as construction and agricultural machinery, wind power, marine propulsion, rail drives and test systems.

With some 161,600 employees worldwide, ZF reported sales of €41.4 billion in fiscal 2024. The company operates 161 production locations in 30 countries.

For further press information and photos, please visit: www.zf.com

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About KD


Fabless semiconductor supplier, KD provides innovative high-speed optical networking solutions for harsh environments. Founded in 2010 in Madrid, Spain, KD offers its cost-effective technology as fully qualified automotive-grade ASSP, integrating electronics, photonics, and optics in a single IC. KD's technology makes use of information theory, innovative digital adaptive algorithms, and analog mixed-signal design to maximize the receiver's sensitivity. KD innovates in optical coupling and packaging design, which enables integration of optical communications ports in electronic control units using standard printed circuit assembly processes. Together, these offerings allow KD to support high-yield and reliable optoelectronics production in low-cost automotive-grade bulk CMOS deep submicron nodes, and to deliver products to carmakers with low risk, low cost, and short time-to-market products. KD made gigabit communications for step-index plastic optical fiber (SI-POF) a reality for automotive and is now developing its multi-gigabit optimized solution for use with Glass Optical Fiber (GOF) as well. More information is available at www.kd.tech

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