

Elmos at electronica 2024: Driving Future Mobility

Dortmund, October 23, 2024: Elmos Semiconductor SE will be represented in **Hall C3 at Booth 141** at the world's leading electronics trade fair **electronica 2024** in Munich from November 12 to 15, 2024.

The electronica offers an ideal platform to present our latest product generations and ideas to a broad audience. As an experienced manufacturer of analog mixed-signal ICs, Elmos supports the structural change in the automotive industry with unique solutions for the mobility of tomorrow. Our pioneering products guarantee higher safety, efficiency and comfort in modern vehicles.

Intelligent motor control solutions for the future of e-mobility

The increasing importance of e-mobility requires a large number of actuators, fans, valves and pumps that can be intelligently controlled with motor control ICs to ensure the most efficient operation and thus maximum range of the vehicles. Elmos meets the increasing demand for energy-saving solutions with integrated motor control ICs based on ARM® MCUs. With the MotCoS system, Elmos also provides a modern, qualified software platform that enables complete system solutions and significantly reduces development times for new applications. The focus is on the E533.06, a new optimized BLDC controller for high power classes, and the E523.6x family, a series of fully integrated motor drivers for low and medium power.

Fusion of ultrasonic sensor and LiDAR ICs

Modern vehicles are equipped with a variety of driver assistance systems, including (semi-)autonomous driving. As the world market leader for automotive ultrasonic sensor ICs, Elmos combines these with Elmos LiDAR ICs to meet the increased requirements of environment detection in the course of driving safety and autonomous driving. Visitors will have the opportunity to see demonstrators of our existing sensor portfolio, including the E524.17 and E521.42 for ultrasonic solutions as well as the smallest and most cost-effective LiDAR system based on the E527.40 SPAD imager and E527.50/51 laser driver.

The latest innovation in exterior vehicle lighting

In addition to safety and efficiency, modern vehicles also offer a high level of comfort for drivers and passengers. The exterior lighting on the car also plays an important role in terms of design. The development of the E522.96 high-side OLED driver IC with high-speed CAN/FD interface confirms Elmos as a leading supplier of multi-channel LED driver ICs for external automotive lighting applications, such as dynamic rear lighting. The E522.96 can control up to 48 OLED segments or LEDs simultaneously and can be cascaded to enable applications with a large number of pixels. The fast CAN-FD connection enables complex light animations. The IC has a memory that saves individual settings for each LED.

High-precision brake pressure IC for brake-by-wire applications

Safety is also a top priority for the mobility of the future. Brake-by-wire systems are gradually replacing conventional braking technologies in vehicles. Compared to conventional mechanical braking systems, they offer optimum control and faster reaction times. In addition, they allow braking behavior to be tailored to the driver's individual requirements. The E520.47 presented at the trade fair precisely is capable of precisely measuring the brake pressure at the individual wheels. The IC was developed in accordance with the ISO26262 standard and supports safety criteria for ASIL D applications.

eFuse solutions for zone architecture and electromobility

Due to the switch to E/E zone architectures and increasing safety-related electrification, the demand for smart solutions for electronic fuses is growing among OEMs. Elmos is implementing the future requirements of the automotive industry into IC products and, with the E138.02, already offers a gate driver product in series for conventional, external nMOS power transistors that enables voltage and temperature measurement in addition to current measurement. In the course of 2025, the development samples of the new standard products for the intelligent and safe control of electronic fuses for the zonal vehicle electrical system will also be available. These ICs offer extensive and precise analysis and measurement capabilities and enable flexible adaptation to emerging applications while ensuring maximum functional safety. All Elmos eFuse solutions are developed in accordance with the ISO26262 standard.

World's smallest quantum random number generator IC (QRNG) for future-proof cybersecurity

Artificial intelligence (AI) is conquering many areas of our everyday lives and requires new solutions for data protection and cybersecurity. This also applies to the secure encryption of data, as conventional encryption methods such as RSA can be threatened by AI. Quantum encryption promises new security. Elmos is developing a quantum random number generator IC (QRNG) for this purpose. It offers true random number generation based on quantum mechanical principles. This enables fast key and certificate exchange and even double protection when using these random numbers in modern post-quantum cryptography (PQC) algorithms. The Elmos QRNG IC is currently the smallest in the world and has been designed for easy integration into a range of applications, from cell phones and IoT devices to vehicle systems such as car-to-X communication, keyless entry and sensor systems. At electronica, Elmos will be showcasing the significant advantages of the QRNG IC in terms of cost, simplified implementation and long-term security, using the first IC samples.

Further information about Elmos products will also be presented in a virtual showroom:

[Virtual Booth - Elmos Semiconductor SE](#)

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About Elmos

Elmos develops, produces and markets semiconductors, primarily for use in the automotive industry. Our components communicate, measure, regulate and control safety, comfort, powertrain and network functions. For 40 years, Elmos innovations have been bringing new functions to life and making mobility worldwide safer, more comfortable and more energy efficient. With our solutions we are already the worldwide #1 in applications with great future potential, such as ultrasonic distance measurement, ambient and rear light as well as intuitive HMI.

Notice

This release contains forward-looking statements that are based on assumptions and estimates made by the Elmos management. Even though we assume the underlying expectations of the forward-looking statements to be realistic, we cannot guarantee the expectations will prove right. The assumptions may carry risks and uncertainties, and as a result actual events may differ materially from the forward-looking statements. Among the factors that could cause such differences are changes in general economic and business conditions, fluctuations of exchange rates and interest rates, the introduction of competing products, lack of acceptance of new products, and changes in business strategy. Elmos neither intends nor assumes any obligation to update its statements with respect to future events.