

onsemiTM

Intelligent Technology. Better Future.



We invite you to come experience our latest automotive power and sensing technologies and products at IZB.

Hall 3, Booth #3309

By visiting our booth at IZB, you will be welcomed by an array of product demos in the field of intelligent power, intelligent sensing and intelligent communications.

Intelligent Sensing:

onsemi will showcase product demos that enable both automotive sensing and viewing applications with latest generation Super Exposure pixel technology. We will also be introducing our smart depth sensing solution for driver/occupant monitoring for in-cabin systems, as well as our LiDAR solution.

Hyperlux Sensor Family Demonstrations: 2.1 μm Single Super Exposure Pixel, Flicker Free 8 MP and 3 MP Image Sensors

Ultra HDR + LFM: Enabling cameras to operate without exposure control achieving total HDR up to 150 dB and 115 dB flicker free HDR (without any noise filtering feature)

- Stability across temperature range: the sensor provides a stable and high usable dynamic range across automotive camera temperatures
- Best Color Quality: The sensor ensures the highest signal-to-noise ratio (SNR) in HDR transition regions, delivering superior color quality
- Applications: The sensor is suitable for various applications, including ADAS/AD, sensing and viewing, eMirror, DVR and next-generation ADAS/AD

Smart iToF Depth Sensing

Occupant + Driver monitoring system [DMS and OMS]: Enhanced depth monitoring of driver and occupant body and head positions for airbags, active restraint safety systems and proper seat belt use.

Motion Artifact Reduction: The iToF sensor is designed to reduce motion artifacts, ensuring clear and accurate images even when objects are moving.

Depth Sensing: The demo includes depth sensing capabilities, allowing the sensor to detect humans, pets and objects at different distances with high accuracy without being affected by variations in illumination, face orientation or partial occlusion of features.

Auto-Qualified SiPM Array for LiDAR

Single Photon Sensitivity: The SiPM sensors have single photon sensitivity, allowing them to detect low reflectivity objects at a distance.

High Resolution and Accuracy: The sensors offer high resolution and accuracy, making them suitable for various applications, including LiDAR for ADAS and autonomous driving.

Photon Discrimination: The SiPM technology enables the detection of single or multiple photons simultaneously, providing not just a depth point cloud, but also an intensity image.

Automotive-Qualified Products: Short-range and long-range LiDAR

Intelligent Ultrasonic and Position Sensing

Automated driving systems use ultrasonic sensors for obstacle detection. Further, automated driving systems use brake-by-wire, steer-by-wire and shift-by-wire systems requiring pedal and steering position sensors. We will showcase our industry-leading ultrasonic and position sensor solutions.

Intelligent Power

onsemi will showcase its latest automotive power technologies and products, which enable both automotive traction and charging with our latest generation of EliteSiC technology.

Traction: Innovative Die and Module Technology come together: B2S and M3E

- Newest SiC technology in the market: The very recently released M3e Technology enables best-in-class performance
- Easy Mechanical System Integration: Enabling well known Baseplate mounting and solderless control (press fit)
- Scalable platform approach: mechanical system integration reuse from 150kW up to 400kW
- Applications: Traction: Main E-Machine control

OBC / ASPM26:

Compact solutions for HV charging and pump control

- Switching optimized SiC technology: The recently released M3S Technology enables best in class performance
- Power to size ratio: Enabling compact and light car design with innovative packaging solutions enabling over 2.5 kW/l
- Highest efficiency: OBC system efficiency is 97% at 11kW EU 3 phase grid specification
- Grid compliant operation: Symmetrical currents, Stable, Reactive power capability ($\cos \phi$ -1 ... 1)
- Applications: bidirectional onboard charger , HV auxiliary pumps (Oil , Water)

Central & Zonal Power Distribution using 48V & 12V Smart Switches & MOSFET

Replacement of fuses and relays with Smart Switches, and MOSFETs for higher currents, enables load diagnostics and precise control of load current. We will showcase our 48V Smart Switches, 12V Smart Switches and automotive MOSFETs.



Intelligent Communications:

Automotive Ethernet for Control of Lighting Modules

Using Automotive Ethernet for lighting modules simplifies the implementation of software defined vehicles. We will show a lighting module driven with our LED and LVDS driver solutions, controlled over a 10BASE-T1S Ethernet connection.

Automotive Ethernet Remote Control Protocol for Software Defined Vehicles

Using a 10BASE-T1S connection with Remote Control Protocol avoids the need for application software in certain automotive ECUs. We will demo a solution showing 10BASE-T1S Remote Control Protocol.