Ambient & Rear Lighting

elmos

EXPERTS FOR AUTOMOTIVE ICs

We have a broad expertise in analog mixed-signal integrated circuit design.

We deeply understand our customers application needs to create real system innovation.

We are a global player for automotive ASSPs and ASICs. We offer worldwide sales and application support.

CORPORATE KEY FACTS

~7 Elmos ICs

on average in every new car

6 product segments

Motor Control, Lighting, Safety/Power/Custom ICs, Ranging, Optical, Sensor ICs

15 locations worldwide

incl. 6 R&D centers, HQ located in Dortmund, Germany

~40 years of experience

in analog mixed signal IC solutions

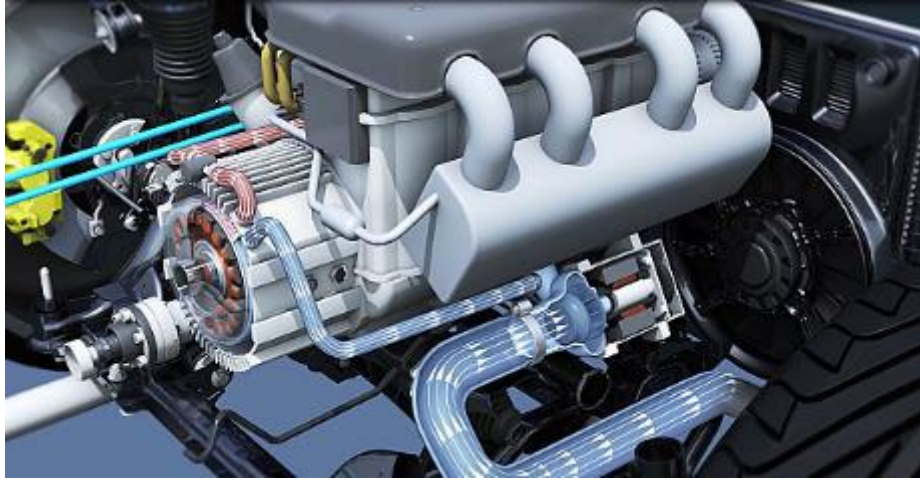
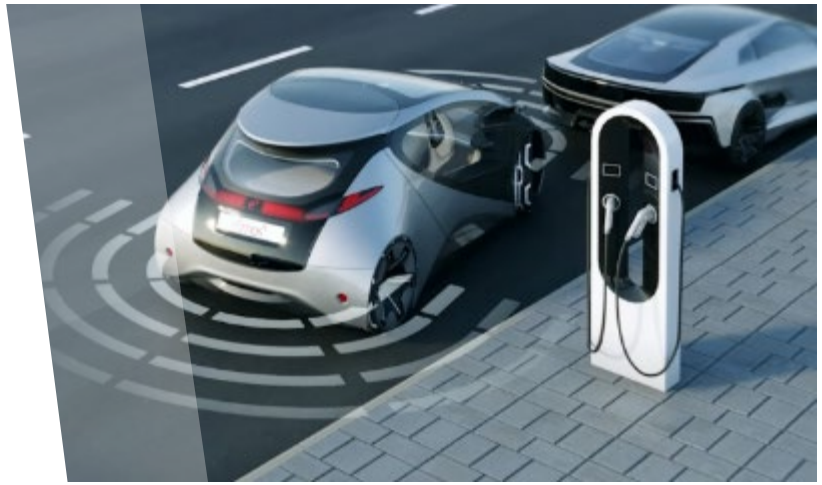
1,200 employees

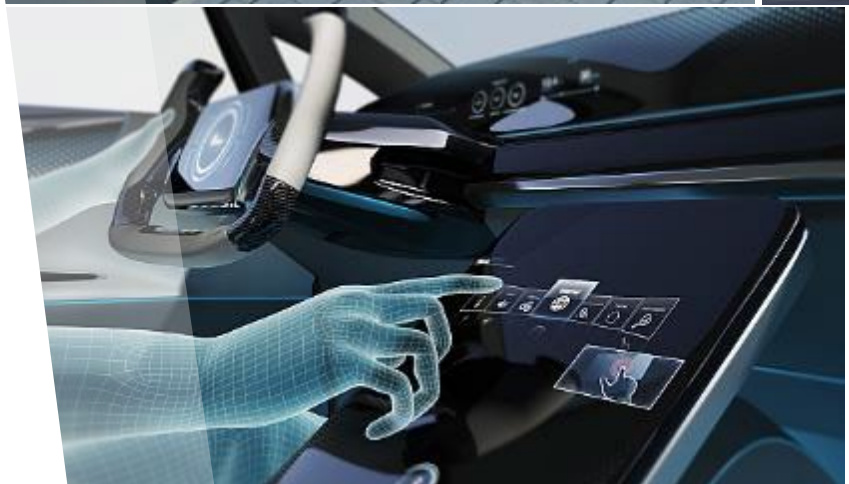
thereof 350+ product developers & engineers

WE ARE LOCATED ALL OVER THE WORLD

PRODUCT SEGMENTS

- RANGING
- OPTICAL
- SENSOR ICs
- MOTOR CONTROL
- LIGHTING
- SAFETY, POWER & CUSTOM ICs




PRODUCT SEGMENT » LIGHTING

DRIVING USER EMOTIONS THROUGH LIGHTING DELIVERING CUSTOMIZATION, COMFORT AND SAFETY

- **#1 in ambient light control**
  - 250+ million LIN RGB controller ICs in the field
  - Auto-addressing easing module integration
  - All color homogeneous light output across temperatures
- **#1 in dynamic rear light animations**
  - Highest flexibility for LED control in dynamic animations
  - Brightest output and best-in-class thermal management
  - Constant light intensity at high temperatures
  - Interface scalability and diagnosis for functional safety

LIGHTING APPLICATIONS

AMBIENT LIGHTING

LIN RGB Drivers
Multichannel RGB Drivers

- Static & dynamic ambient lighting
- Homogeneous light output over full automotive temperature range
- Flicker free dynamic effects

REAR LIGHTING

Static LED Drivers
Multichannel LED Drivers

- Static & dynamic pixel control
- Advanced thermal management
- All architecture interface scalability

Light Drives Emotion

LIN RGB LED DRIVERS

Delivering enhanced cockpit ambience and user experience through interior lighting

Use cases

- Floor light, roof light, reading light, door panels, cup-holders, dashboard surfaces, …

USPs

- > 15 slave nodes auto addressing
- Precise LED forward voltage measurement system for high intensity variation and color temperature compensation
- Flicker free performance

STATIC LED DRIVERS

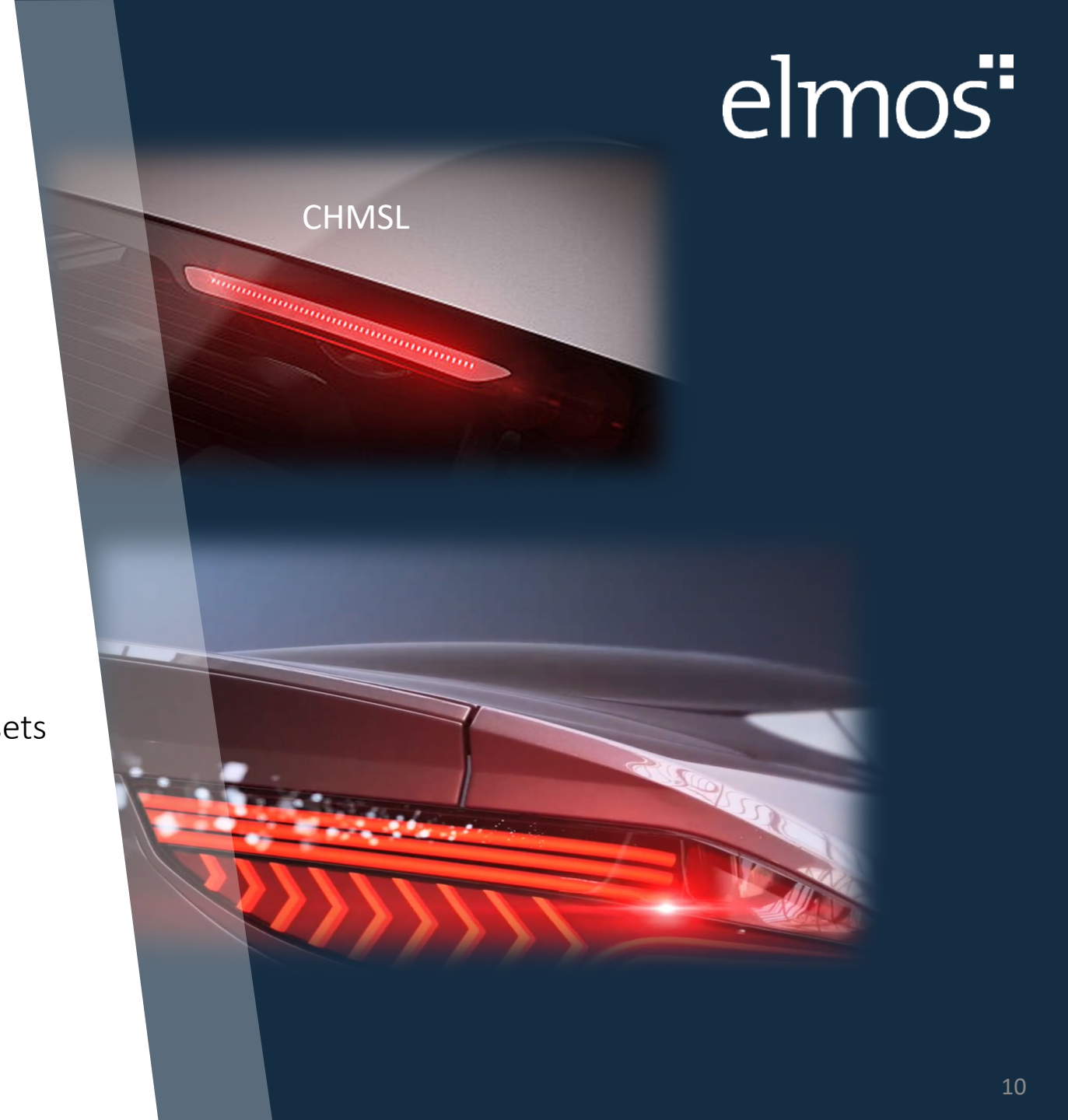
Delivering high brightness solutions for driving exterior lighting using advanced thermal management

Use cases

- Rear light, break light, CHMSL, turn indicator light, reverse light, fog light, DRL, …

USPs

- Advanced thermal management for heat distribution
- Broad product portfolio for basic to extended feature sets
- Compatibility in groups and subgroups of products



MULTI CHANNEL LED DRIVERS

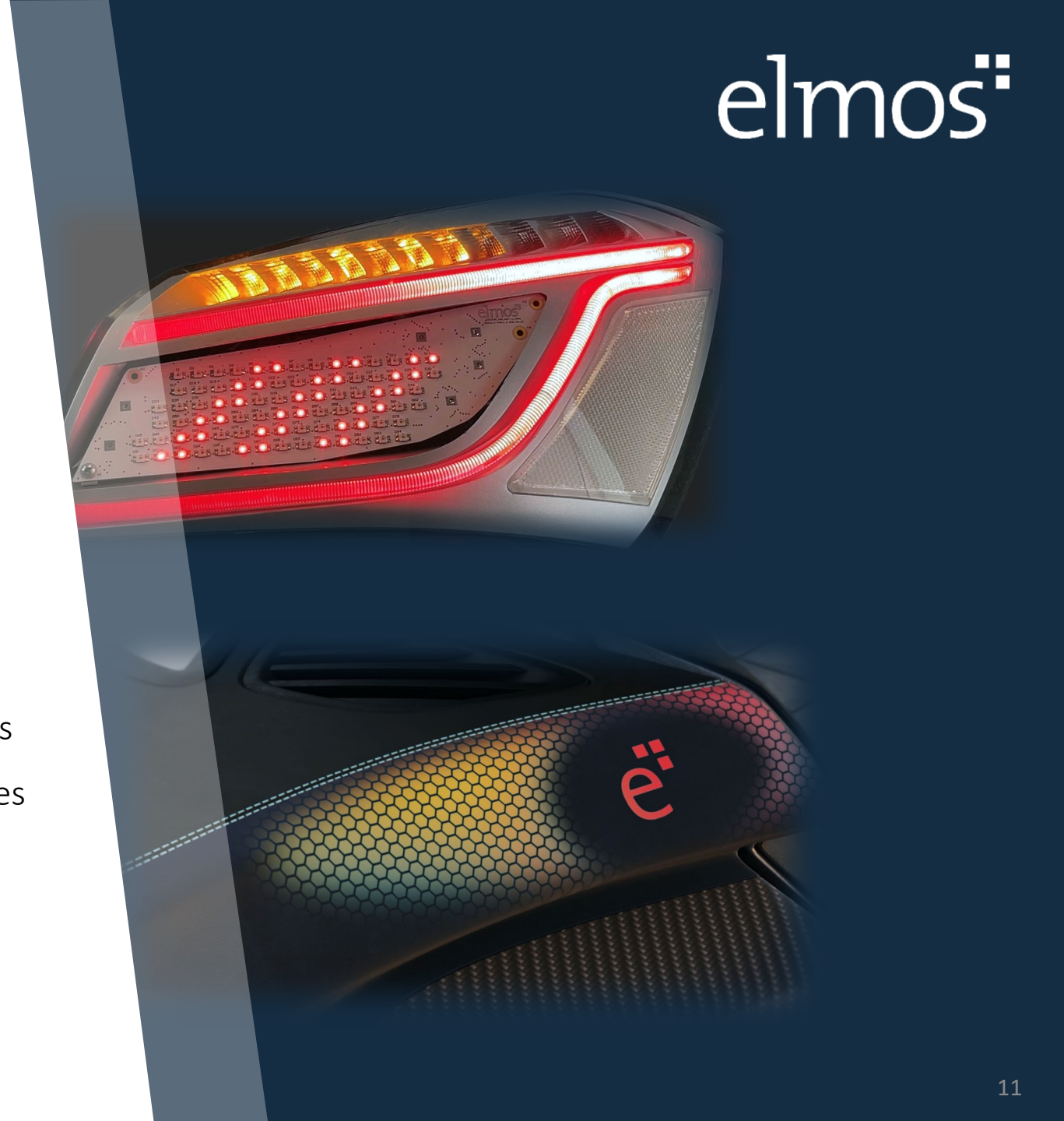
Delivering dynamic animations through individual LED control for exterior lighting

Use cases

- Rear light, break light, dynamic turn indicator, fog light, DRL, reverse light, front light grille, ...

USPs

- Advanced thermal management for heat distribution
- Interfaces to address all types of rear light architectures
- Communication protocols to address different data rates
- Developed according to ISO26262 to support ASIL B



ELMOS NEXT GEN LED DRIVERS

RGBW LED Driver with LIN Interface

Enables trend-setting, future-proof product concepts, resulting into stable modular platform designs, thereby reducing integration, development and qualification costs

PPAP AVAILABLE

Use cases

- lighting stripes, floor lights, door panels, …

USPs

- 60mA output current per channel ideal for daytime ambient lighting
- Auto Addressing feature allowing >15 slave addresses in a single LIN communication bus
- 40% higher PWM frequency for reducing LED flickering and allowing eye-friendly light output
- 12-bit ADC resolution allowing high precision color compensation over temperature for homogeneity

ELMOS NEXT GEN LED DRIVERS

12 channel RGB LED driver for dynamic applications for comfort and safety critical interior lighting

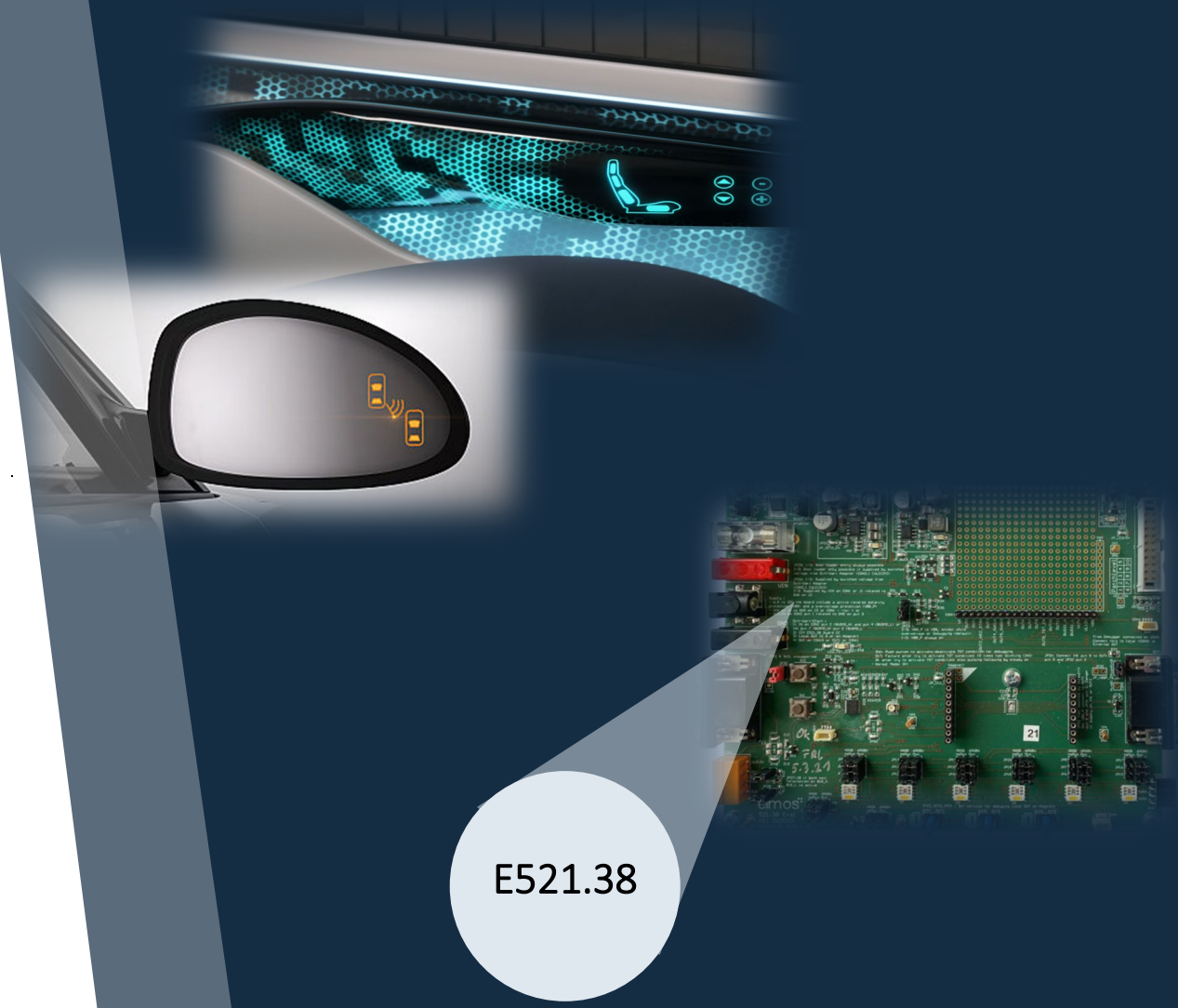
PPAP AVAILABLE

Use cases

- Side mirror warning, pedestrian/cyclist warning, lighting stripes, surfaces, floor lights, door panels, lighting integration with driver monitoring systems, …

USPs

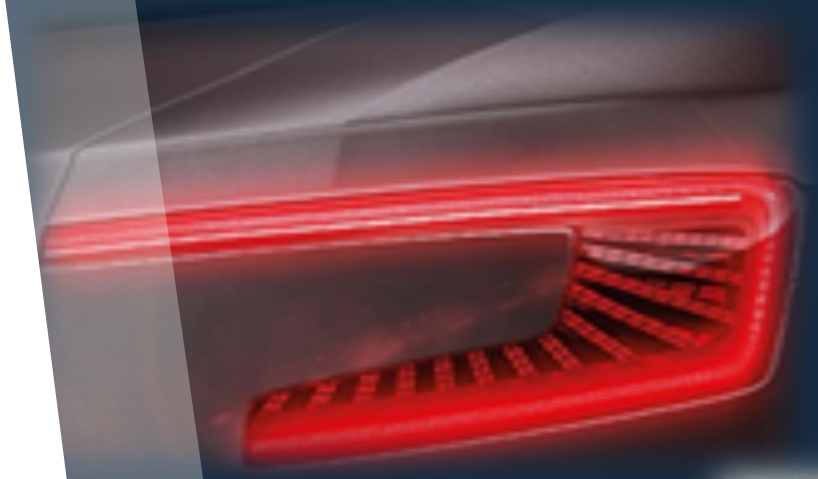
- Multiplex mode to address 6 RGBs
- Boost mode for 2.5 times max current
- 16-bit 1kHz PWM for flicker free performance
- High speed elmos Light bus protocol
- Scalable slave-node system for auto-addressing
- Developed according to ISO26262 to support ASIL B



ELMOS NEXT-GEN LIGHTING

High Flexible 3 channel Automotive LED Driver for driving rear lights and (dynamic) turn indicators

PPAP AVAILABLE



Use cases

- Rear lighting, turn indicators, DRL, logo light, fog light, reverse driving light, …

USPs

- Advanced thermal management for heat distribution
- 3x 200mA each output current (total 600mA)
- Supports Single LED failure detection
- Integrated 120° phase shifted PWM generator
- System cost reduction due to integration
- Offering a dynamic turn indicator function

ELMOS NEXT-GEN LIGHTING

PPAP AVAILABLE

16 channel LED Driver with UART over CAN-FD interface for automotive exterior light systems used for high speed LED light animations and direct BCM control

Use cases

- Rear lighting, turn indicators, DRL, front light grille, fog light, reverse driving light, ...

USPs

- Advanced thermal management for heat distribution
- 1Mbps UART communication protocol
- 2x PWMIN inputs with priority for fallback functionality
- Integrated Differential Mode PHY for local Architecture
- Tx/Rx inputs for external CAN FHY
- Developed according to ISO26262 to support ASIL B

ELMOS NEXT-GEN LIGHTING

PPAP AVAILABLE

16 channel Standalone LED Driver with embedded animations
for automotive exterior light systems targeting
ECU less light animations

Use cases

- Rear lighting, turn indicators, DRL, front light grille, fog light, reverse driving light, ...

USPs

- Advanced thermal management for heat distribution
- Embedded memory to store predefined animation sequences
- 4x discrete inputs for triggering animation sequences
- Developed according to ISO26262 to support ASIL B


elmos
Innovation Matters

DISCLAIMER

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