



Demo

ESD truck demonstrator

# ESD truck demo


## Demonstrator

- Show robustness of Nexperia ESD devices
- Protection of CAN and other lines needed

## Key features

- PESDIVN protection devices for  $\mu$ -Controller protection
- Complete circuit build from Nexperia parts





Products PESD2IVN24-T/27-  
T, TLVH431, BAV23A/C, 2N7002,  
PHPT60415PY/NY

# Automotive ESD protection

## CAN ESD protection

- Parasitic capacitance of 17-30pF max (for CAN FD 6-10)
- Because of rather high  $C_p$ , matching is required
- Short-to-battery and jumpstart robust
- ISO16750-2 (26 V) or internal norms (28 V)
- Compliance with IEC62228-3 in combination with a CAN transceiver (Emission, Immunity: DPI, Pulses, ESD)

## Ethernet ESD protection

- Fully 100/1000BASE-T1 OPEN Alliance compliant
- Low capacitance down to < 1.2 pF
- ESD protection up to 30 kV (IEC 61000-4-2, contact)
- ESD robustness 15 kV at 1000 discharges
- High trigger voltage:  $V_{t1} = 100 \text{ V min}$
- Available in various package options
- AEC-Q101 qualified / automotive grade



## LIN ESD protection

- Parasitic capacitance of 30-100pF max
- Short-to-battery and jumpstart robust
- ISO16750-2 (26 V) or internal norms (28 V)
- Compliance with ISO17987 in combination with a transceiver (Emission, Immunity: DPI, Pulses, ESD)

## USB ESD protection

- Low capacitance for highest signal integrity
- Low clamping and trigger voltage for best system protection
- High device robustness against surge current and ESD voltage



Benefits

# Automotive ESD protection

## Benefits

- Protects system from unintended operation or shut down
- Protects devices from physical damage or destruction

## Highlights

- Up to 30kV ESD protection for CAN bus
- ESD options available for LIN, CAN, USB, APIX, GMSL, FPDLink, Ethernet and more

