

Outdoor inverter automatic discharge





Overview

Do EV traction inverters need a DC link active discharge?

Every EV traction inverter requires a DC link active discharge as a safety-critical function. The discharge circuit is required to discharge the energy in the DC link capacitor under the following conditions and requirements: Power transistor on, off control using the TPSI3050-Q1.

What technologies are used in traction inverters?

The devices and technologies used to enable traction inverters, including isolation, high-voltage domain, and low-voltage domain technology, are also covered. Finally, the document focuses on the system engineering concepts and designs to accelerate traction inverter design time. Figure 2-1.

Why do EV inverters need to be discharged?

Abstract: when an Electrical Vehicle (EV) encounters an accident or the vehicle is taken to a service station, the DC-link capacitor in the inverter must be discharged to ensure safety of both the passengers and the operator.

How do EV traction inverters work?

To control the voltage so that the voltage does not exceed 50 V (touch safe), the auxiliary power supply has to turn on and power up safety-relevant circuits that can discharge the DC link caps (active discharge) or actively short circuit the motor. Every EV traction inverter requires a DC link active discharge as a safety-critical function.



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