Littelfuse®
Expertise Applied | Answers Delivered

Electronic PRODUCTS

Ultimate Circuit Protection Resources Guide: Automotive Electronics

Discover Four Automotive Electronics Segments Driving Market Growth

As cars become more advanced, the demand for innovative automotive electronics systems will increase. How much is each segment of the automotive electronics market expected to grow? Littelfuse, the global leader in circuit protection, has compiled the latest data to reveal the growth projections for processors, infotainment systems, connected vehicles, and safety features.

Learn More **View the InfoGraphic**

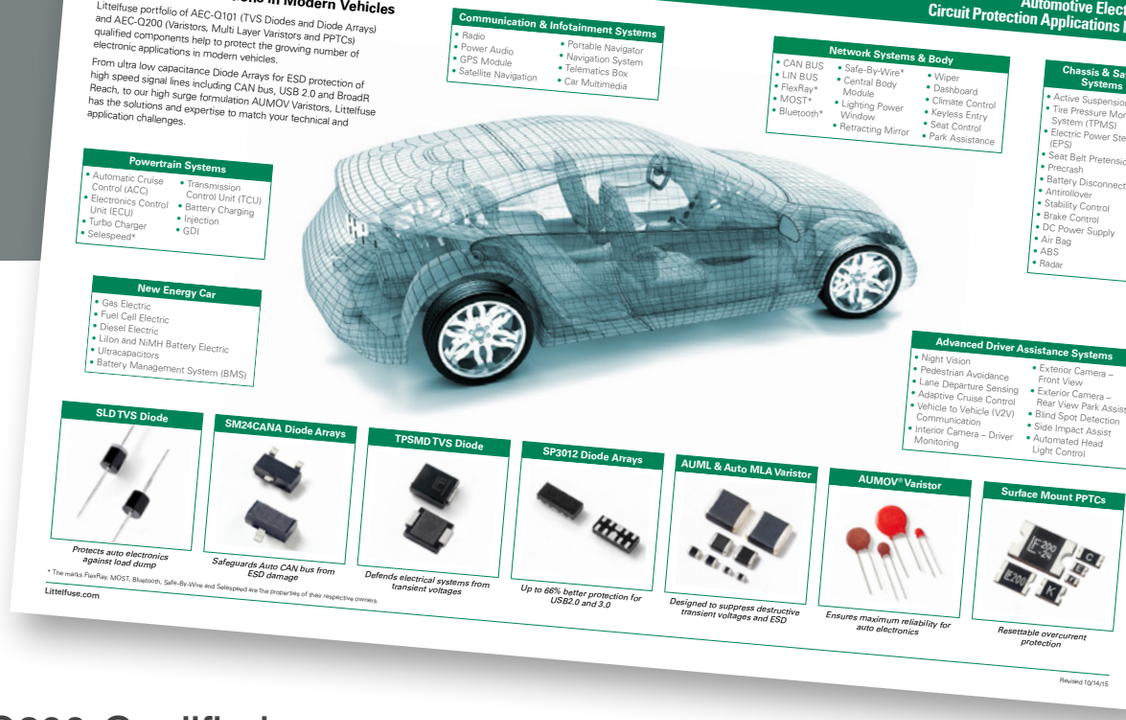
Q: What's the difference between automotive transient protection and electrostatic-discharge (ESD) transient protection?

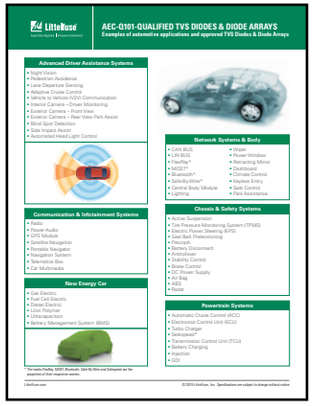
ANSWER

New! Automotive Circuit Protection Applications Matrix

Confused about which circuit protection device to pick for your next automotive electronics project? Littelfuse has the answers all wrapped up in this convenient Automotive Electronics Circuit Protection Applications Matrix. It covers a broad range of AEC-Q101- and AEC-Q200-qualified components to protect the growing variety of electronic devices in today's vehicles.

Download Now

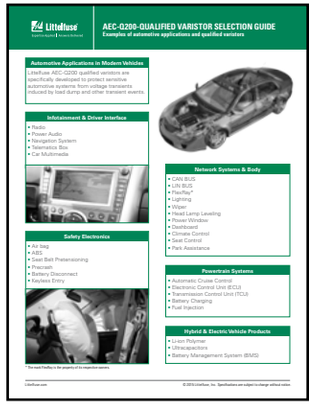




AEC-Q101-Qualified TVS Diodes & Diode Arrays

Examples of automotive applications and approved TVS diodes and diode arrays.

Download Now



AEC-Q200-Qualified Varistor Selection Guide

Examples of automotive applications and qualified varistors.

Download Now

Q: What are the top industry standards for automotive transient protection?

ANSWER

Protecting Automotive Electronics under the Hood and in the Cabin

Automotive Circuit Protection using TVS Diodes Application Note

Designing automotive electronics presents numerous technical challenges, including the need to protect against electrical hazards that can harm the vehicle's electronics. The Automotive CP Application Note helps designers of automotive electronics eliminate transient surges using transient voltage suppression (TVS) diode technology, enhancing the overall safety of the vehicles.

Download Now

Updated! ESD Suppression Design Guide

Choosing the most appropriate ESD suppression technology requires a balance between equipment protection needs and operating requirements. This comprehensive 18-page guide summarizes some of the solutions available and helps designers choose the most appropriate solution for their end applications and numerous interfaces (USB 3.0, HDMI, Ethernet, CAN Bus, etc.).

Download Now

Updated! Varistor Design Guide for DC & Automotive Applications

When designing electronics for lower-DC-voltage automotive applications, it's vital to protect against the damaging effects of high-voltage transients. Need advice on transient suppression techniques? Want help choosing a reliable varistor for your next design? Download this design guide to learn about varistor technology and how to select the ideal varistor for your application.

Download Now

Q: What is a TVS Diode? **ANSWER**

Market Growth

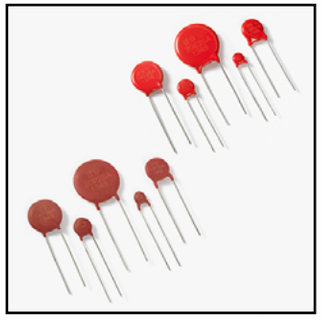
Applications Matrix

Protection

Innovations

Selecting

Automotive Electronics Circuit Protection Innovations



AEC-Q200-Compliant Varistor: 50% Higher Surge Rating

The AUMOV® Series Varistor is the ideal circuit protection solution for lower-DC-voltage automotive applications. With 50% greater surge withstanding capability than comparable technologies, it protects sensitive vehicle systems from voltage transients induced by load dump and jump starts. In compliance with the AEC-Q200 standard, it can be used in the passenger compartment or under the hood.

LEARN MORE

Compact 3,000-W TVS Diode for High Reliability Applications

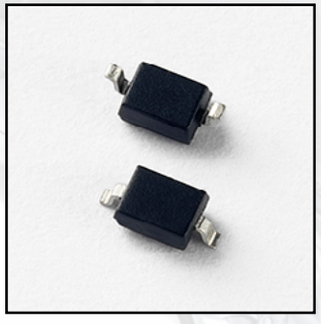
The TPSMD TVS Diode protects sensitive automotive electronics from voltage transients. AEC-Q101-qualified, it offers a peak pulse power dissipation rating of 3,000 W in a standard DO-214AB package (TPSMC 1,500-W series also available). Both series are automotive-grade products complying with IEC 61000-4-2 and IEC 610000-4-4 standards and are well suited for high-reliability applications.

LEARN MORE

More Load Dump Protection, Smaller Footprint

The AEC-Q101-qualified SLD Series Automotive TVS Diode protects sensitive electronic equipment from voltage transients, especially those induced by load dump and other transient voltage events. It offers a 5,000-W (10/1,000μs) or 2,200-W (load dump) peak pulse power dissipation rating in a standard P600 package. Meets ISO7637-2 5a/5b and ISO16750.

LEARN MORE



Robust TVS Diodes: Superior Protection & Clamping

The SD and SD-C Discrete Unidirectional and Bidirectional 450-W TVS Diodes protect against ESD and lightning-induced surge currents. AEC-Q101-qualified for use in automotive electronics. Safely absorb repetitive ESD strikes at ±30 kV and dissipate up to 30 A of surge current. Low dynamic resistance provides a 50% reduction in clamping voltage.

LEARN MORE

Market Growth
Applications Matrix
Protection
Innovations
Selecting