



VISHAY

Vishay Intertechnology, Inc.

The DNA of tech.™



Diodes *for the*  
**AUTOMOTIVE INDUSTRY**





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**All products listed  
in this brochure are  
AEC-Q101 qualified**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)

**[www.vishay.com](http://www.vishay.com)**



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# DIODES FOR THE AUTOMOTIVE INDUSTRY

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ENGINE VEHICLE CONTROL UNIT – 12 V / 24 V

## **ENGINE COOLING EXHAUST CONTROL SYSTEMS**

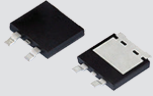
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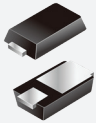
# ENGINE VEHICLE CONTROL UNIT – 12 V / 24 V ENGINE COOLING



## Schottky Rectifiers

**V20DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

- 20 A, 120 V for freewheeling and high frequency rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE10F Series** – Miniature-Package Rectifiers for Rail to Rail Signal Line Protection

- High ESD voltage and surge current capability
- Compatible with SOD-123 pad layout and package size



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

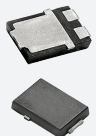
- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 1 A, 200 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3\text{ A}$ , 200 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

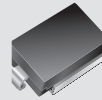
- $2 \times 4\text{ A}$ , 200 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

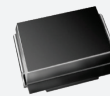
- $2 \times 8\text{ A}$ , 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## TVS

**SM8S10AT thru SM8S43AT** – High Power TVS for Main Load Dump Suppression for Rail to Rail Signal Line Protection

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode



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# ENGINE VEHICLE CONTROL UNIT – 12 V / 24 V

## ENGINE COOLING



### Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 A, 200 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



### Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



### Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



### Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



### Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



### Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# ENGINE VEHICLE CONTROL UNIT – 12 V / 24 V EXHAUST CONTROL SYSTEMS



## Schottky Rectifiers

**V8PAM12HM3** – High Current Density, High Voltage Schottky Rectifiers

- 8 A, 120 V for freewheeling and high frequency rectification
- SMPA (DO-221BC) package with 0.95 mm low profile

## TVS

**SM5S10AT thru SM5S43AT** – High Power TVS for Main Load Dump Suppression

- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Schottky Rectifiers

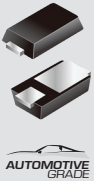
**V20DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

- 20 A, 120 V for freewheeling and high frequency rectification
- SMPD (TO-263AC) package with 1.8 mm low profile

## TVS

**SM6S10AT thru SM6S43AT** – High Power TVS for Main Load Dump Suppression

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**MSX1P Series** – Miniature Rectifiers With High ESD Capability for Rail to Rail Signal Line and Power line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space

## TVS

**SM8S10AT thru SM8S43AT** – High Power TVS for Main Load Dump Suppression

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**SE10F Series** – Miniature-Package Rectifiers for Rail to Rail Signal Line Protection

- High ESD voltage and surge current capability
- Compatible with SOD-123 pad layout and package size

## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout

## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode



## Ultrafast Rectifiers

**AU3P Series** – High Current Density Ultrafast Rectifiers With High Avalanche Capability

- 3 A, up to 1 kV 20 mJ avalanche capability with fast switching characteristics
- SMPC (TO-277A) package with low profile of 1.1 mm

## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes





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# ENGINE VEHICLE CONTROL UNIT – 12 V / 24 V EXHAUST CONTROL SYSTEMS



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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POWERTRAIN – INJECTION CONTROL AND FUEL PUMP

**DIRECT INJECTOR CONTROL**  
**PIEZO INJECTION CONTROL**  
**FUEL PUMP CONTROL**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)



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# POWERTRAIN – INJECTION CONTROL AND FUEL PUMP DIRECT INJECTOR CONTROL



## Schottky Rectifiers

**SS8PH9HM3, SS8PH10HM3** – High Current Density, High Voltage Schottky Rectifiers

- 8 A, 100 V for freewheeling and high frequency rectification
- SMPC (TO-277A) package with 1.1 mm low profile



## Schottky Rectifiers

**V8PAM12HM3** – High Current Density, High Voltage Schottky Rectifiers

- 8 A, 120 V for freewheeling and high frequency rectification
- SMPA (DO-221BC) package with low profile of 0.95 mm



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**AU3P Series** – High Current Density Ultrafast Rectifiers With High Avalanche Capability

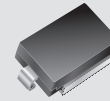
- 2 A, 200 V fast-switching rectifier for high frequency applications, 20 mJ high avalanche capability, and 75 ns fast switching characteristics
- SMPC (TO-277A) package with low profile of 1.1 mm



## Ultrafast Rectifiers

**ESH2P Series** – Ultrafast Rectifiers With Wide Operating Temperature Range

- 2 A, 200 V fast switching rectifier for high frequency applications, 20 mJ high avalanche capability, and 75 ns fast switching characteristics
- SMP (DO-220AA) package with high operating temperature to +175 °C



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

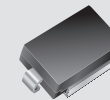
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10A thru SM6S36A** – High Power Density Uni-Directional TVS for Power Line Load Dump

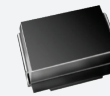
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT54** – Single and Dual Construction Protect Against Excessive Voltage

- Very low turn-on voltage and fast switching
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

**BAV23C** – Fast Switching Dual Diode With Common Cathode

- Silicon epitaxial planar diode





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# POWERTRAIN – INJECTION CONTROL AND FUEL PUMP DIRECT INJECTOR CONTROL



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 1 A, 200 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 A, 200 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3\text{ A}$ , 200 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4\text{ A}$ , 200 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8\text{ A}$ , 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

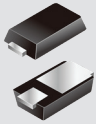
**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\text{ }%$  ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# POWERTRAIN – INJECTION CONTROL AND FUEL PUMP PIEZO INJECTION CONTROL



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

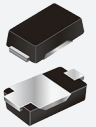
- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**AU3P Series** – High Current Density Ultrafast Rectifiers With High Avalanche Capability

- 2 A, 200 V fast-switching rectifier for high frequency applications, 20 mJ high avalanche capability, and 75 ns fast switching characteristics
- SMPC (TO-277A) package with low profile of 1.1 mm



## Ultrafast Rectifiers

**ESH2P Series** – Ultrafast Rectifiers With Wide Operating Temperature Range

- 2 A, 200 V fast switching rectifier for high frequency applications, 20 mJ high avalanche capability, and 75 ns fast switching characteristics
- SMP (DO-220AA) package with high operating temperature to +175 °C



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 3 A, 200 V for high frequency switching, 25 ns recovery, Tjmax = 175 °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 4 A, 200 V for high frequency switching, 22 ns recovery, Tjmax = 175 °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

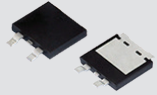
**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



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# POWERTRAIN – INJECTION CONTROL AND FUEL PUMP PIEZO INJECTION CONTROL



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

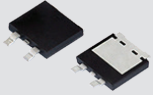
- 500 mW power dissipation, excellent thermal characteristics,  $R_{thJA}$  130 k/W
- Symmetrical leads are wave and reflow solderable





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# POWERTRAIN – INJECTION CONTROL AND FUEL PUMP FUEL PUMP CONTROL



## Schottky Rectifiers

**V35DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

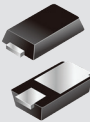
- 35 A, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V35PWM10HM3** – High Current Density, High Voltage Schottky Rectifiers

- 35 A, 100 V Schottky rectifiers for freewheeling and rectification
- SlimDPAK (TO-252AE) package with 1.3 mm low profile; 120 V and 150 V types available



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

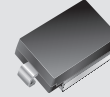
- 1 A, 200 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

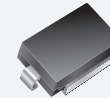
- 2 A, 200 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

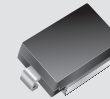
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT54** – Single and Dual Construction Protect Against Excessive Voltage

- Very low turn-on voltage and fast switching
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

**BAV23C** – Fast Switching Dual Diode With Common Cathode

- Silicon epitaxial planar diode



The DNA of tech.

# POWERTRAIN – INJECTION CONTROL AND FUEL PUMP FUEL PUMP CONTROL



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

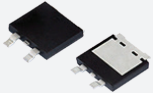
- $2 \times 3$  A, 200 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 200 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- Symmetrical leads are wave and reflow solderable

CHASSIS CONTROL

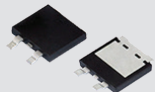
**ELECTRIC POWER STEERING (BLDC MOTOR DRIVE)  
TRANSMISSION ECU, DOUBLE CLUTCH BLDC**





The DNA of tech.

# CHASSIS CONTROL ELECTRIC POWER STEERING (BLDC MOTOR DRIVE)



## Schottky Rectifiers

**V35DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

- 35 A, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V60D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

- 30 A  $\times$  2, 100 V Schottky rectifiers for freewheeling and high frequency rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, 3 A current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

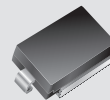
- 1 A, 100 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 100 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

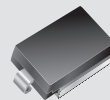
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode



The DNA of tech.

# CHASSIS CONTROL ELECTRIC POWER STEERING (BLDC MOTOR DRIVE)



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

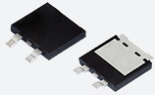
- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# CHASSIS CONTROL TRANSMISSION ECU, DOUBLE CLUTCH BLDC



## Schottky Rectifiers

**V35DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

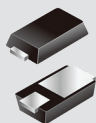
- 35 A, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V60D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

- 30 A  $\times$  2, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

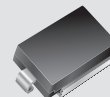
- 1 A, 100 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 100 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

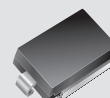
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

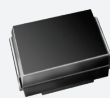
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode





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# CHASSIS CONTROL TRANSMISSION ECU, DOUBLE CLUTCH BLDC



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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BODY ELECTRONICS

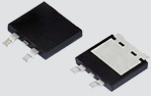
**COMFORT, DOOR, WINDOW CONTROLS  
INFOTAINMENT, NAVIGATION, AUDIO  
INTERIOR LED LIGHTING**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)



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# BODY ELECTRONICS COMFORT, DOOR, WINDOW CONTROLS



## Schottky Rectifiers

**V20DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

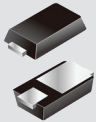
- 20 A, 120 V for freewheeling and high frequency rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V35PWM10HM3** – High Current Density, High Voltage Schottky Rectifiers

- 35 A, 100 V Schottky rectifiers for freewheeling and rectification
- SlimDPAK (TO-252AE) package with 1.3 mm low profile; 120 V and 150 V types available



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

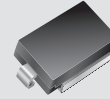
- 1 A, 100 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 100 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

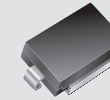
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

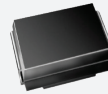
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode



The DNA of tech.

# BODY ELECTRONICS COMFORT, DOOR, WINDOW CONTROLS



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

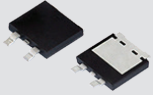
**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# BODY ELECTRONICS INFOTAINMENT, NAVIGATION, AUDIO



## Schottky Rectifiers

**V40D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

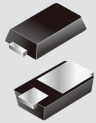
- 20 A × 2, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**VSSAF5M10HM3** – High Current Density, High Voltage Schottky Rectifiers

- 5 A, 100 V Schottky Rectifiers for freewheeling and rectification
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

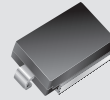
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

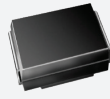
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode





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# BODY ELECTRONICS INFOTAINMENT, NAVIGATION, AUDIO



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 200 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 200 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# BODY ELECTRONICS INTERIOR LED LIGHTING



## Schottky Rectifiers

**VSSAF5M6HM3** – High Current Density, High Voltage  
TMBS® Rectifier

- 5 A, 60 V Schottky rectifiers, high temperature, low leakage, high current density
- SlimSMA (DO-221AC) package with low profile of 0.95 mm and compatible pad layout to SMA (DO-220AC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With  
High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With  
High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

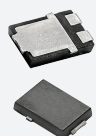
- 3 A, 200 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- 1 A, 200 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- $2 \times 3\text{ A}$ , 200 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- $2 \times 4\text{ A}$ , 200 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- $2 \times 8\text{ A}$ , 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## TVS

**TPSMA Series** – Surface-Mount PAR® Transient Voltage  
Suppressor With Wide Operating Temperature Range

- 400 W peak pulse power capability with a 10/1000  $\mu\text{s}$  waveform, repetitive rate (duty cycle) of 0.01 % up to 43 V breakdown voltage
- SMA (DO-214AC) package



## TVS

**TPSMB Series** – Surface-Mount PAR® Transient Voltage  
Suppressor With Wide Operating Temperature Range

- 600 W peak pulse power capability with a 10/1000  $\mu\text{s}$  waveform, repetitive rate (duty cycle) of 0.01 % ; up to 43 V breakdown voltage
- SMB (DO-214AA) package



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic  
Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring bullet
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode



The DNA of tech.

# BODY ELECTRONICS INTERIOR LED LIGHTING



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



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## ACTIVE SAFETY

**ENHANCED ELECTRICAL BRAKING (EEB)**

**ELECTRONIC STABILITY PROGRAM (ESP)**

**VEHICLE STABILITY CONTROL (VSC)**

**ELECTRICAL PARKING BRAKE (EPB)**

**INTEGRATED PARKING BRAKE (IPB)**

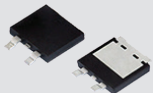
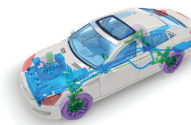
**ADVANCED DRIVER ASSISTANCE SYSTEM (ADAS)**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)



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# ACTIVE SAFETY ENHANCED ELECTRICAL BRAKING (EEB)



## Schottky Rectifiers

**V20DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

- 20 A, 120 V for freewheeling and high frequency rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V40D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

- 20 A × 2, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) miniature package with 1.8 mm low profile



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

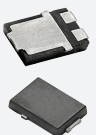
- 1 A, 100 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

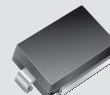
- 3 A, 100 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 3 A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

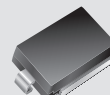
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode





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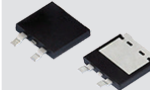
# ACTIVE SAFETY ENHANCED ELECTRICAL BRAKING (EEB)



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

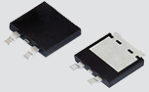
**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# ACTIVE SAFETY ELECTRONIC STABILITY PROGRAM (ESP)



## Schottky Rectifiers

**V40D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

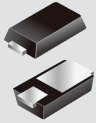
- 20 A × 2, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V60D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

- 30 A × 2, 100 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

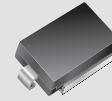
- 1 A, 100 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

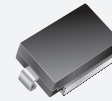
- 3 A, 100 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

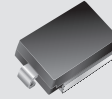
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode



The DNA of tech.

# ACTIVE SAFETY ELECTRONIC STABILITY PROGRAM (ESP)



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPC (TO-277A) package with 1.1 mm low profile



AUTOMOTIVE  
GRADE

## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile llet



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



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GRADE

## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



AUTOMOTIVE  
GRADE

## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



AUTOMOTIVE  
GRADE

## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



AUTOMOTIVE  
GRADE

## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



AUTOMOTIVE  
GRADE

## Zener Diodes

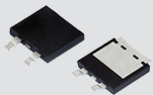
**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



The DNA of tech.

# ACTIVE SAFETY VEHICLE STABILITY CONTROL (VSC)



## Schottky Rectifiers

**V20DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

- 20 A , 120 V for freewheeling and high frequency rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V40D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

- 20 A × 2, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

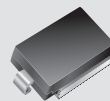
- 1 A, 100 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

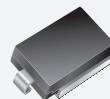
- 3 A, 100 V for high frequency switching, 20 ns recovery, = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power TVS for Main Load Dump Suppression

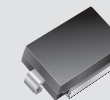
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power TVS for Main Load Dump Suppression

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power TVS for Main Load Dump Suppression for Rail to Rail Signal Line Protection

- 8000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT54** – Single and Dual Construction Protect Against Excessive Voltage

- Very low turn-on voltage and fast switching
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

**BAV23C** – Fast Switching Dual Diode with Common Cathode

- Silicon epitaxial planar diode



The DNA of tech.

# ACTIVE SAFETY VEHICLE STABILITY CONTROL (VSC)



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable





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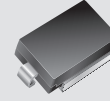
# ACTIVE SAFETY ELECTRICAL PARKING BRAKE (EPB)



## Schottky Rectifiers

**V35PWM10HM3** – High Current Density, High Voltage Schottky Rectifiers

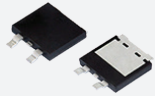
- 35 A, 100 V Schottky rectifiers for freewheeling and rectification
- SlimDPAK (TO-252AE) package with 1.3 mm low profile; 120 V and 150 V types available



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Schottky Rectifiers

**V40D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

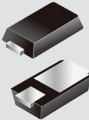
- 20 A × 2, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

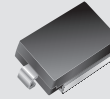
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 1 A, 100 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (DO-219AB) package with < 1 mm low profile



## Small Signal Schottky Diodes

**BAT54** – Single and Dual Construction Protect Against Excessive Voltage

- Very low turn-on voltage and fast switching
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 100 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Small Signal Switching Diodes

**BAV23C** – Fast Switching Dual Diode With Common Cathode

- Silicon epitaxial planar diode



The DNA of tech.

# ACTIVE SAFETY ELECTRICAL PARKING BRAKE (EPB)



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

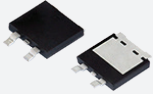
- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPD (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

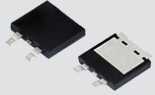
**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# ACTIVE SAFETY INTEGRATED PARKING BRAKE (IPB)



## Schottky Rectifiers

**V35DM120HM3** – High Current Density, High Voltage Schottky Rectifiers

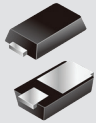
- 35 A, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Schottky Rectifiers

**V60D100CHM3** – High Current Density, High Voltage Schottky Rectifiers

- 30 A  $\times$  2, 120 V Schottky rectifiers for freewheeling and rectification
- SMPD (TO-263AC) package with 1.8 mm low profile



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

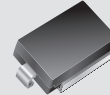
- 1 A, 100 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

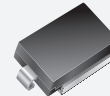
- 3 A, 100 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

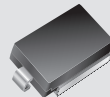
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT54** – Single and Dual Construction Protect Against Excessive Voltage

- Very low turn-on voltage and fast switching
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

**BAV23C** – Fast Switching Dual Diode with Common Cathode

- Silicon epitaxial planar diode



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# ACTIVE SAFETY INTEGRATED PARKING BRAKE (IPB)



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

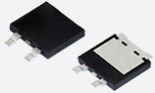
- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# ACTIVE SAFETY ADVANCED DRIVER ASSISTANCE SYSTEM (ADAS)



## Schottky Rectifiers

**V20PWM10HM3** – High Current Density, High Voltage  
TMBS® Rectifier

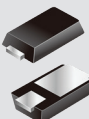
- 20 A, 100 V low leakage Schottky rectifiers for freewheeling and rectification
- SlimDPAK (TO-252AE) package with low profile of 1.3 mm



## Schottky Rectifiers

**VSSAF5M10HM3** – High Current Density, High Voltage  
Schottky Rectifiers

- 5 A, 100 V Schottky rectifiers for freewheeling and rectification
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With  
High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With  
High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

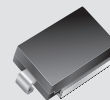
- 1 A, 100 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

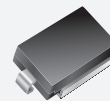
- 3 A, 100 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

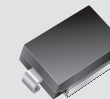
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

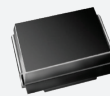
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS  
for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes  
in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes  
in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode





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# ACTIVE SAFETY ADVANCED DRIVER ASSISTANCE SYSTEM (ADAS)



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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PASSIVE SAFETY

**AIRBAG CONTROL SYSTEMS**  
**RESTRAINT SYSTEM POWER SUPPLIES**  
**PEDESTRIAN PROTECTION SYSTEMS**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)



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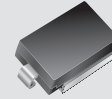
# PASSIVE SAFETY AIRBAG CONTROL SYSTEMS



## Schottky Rectifiers

**V20PWM10HM3** – High Current Density, High Voltage  
TMBS® Rectifier

- 20 A, 100 V low leakage Schottky rectifiers for freewheeling and rectification
- SlimDPAK (TO-252AE) package with low profile of 1.3 mm



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Schottky Rectifiers

**VSSAF5M6HM3** – High Current Density, High Voltage  
TMBS® Rectifier

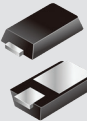
- 5 A, 60 V Schottky rectifiers, high temperature, low leakage, high current density
- SlimSMA (DO-221AC) package with low profile of 0.95 mm and compatible pad layout to SMA (DO-220AC)



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

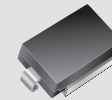
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With  
High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

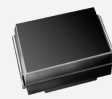
- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With  
High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS  
for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic  
Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode



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# PASSIVE SAFETY AIRBAG CONTROL SYSTEMS



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 200 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 200 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175^\circ\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# PASSIVE SAFETY RESTRAINT SYSTEM POWER SUPPLIES

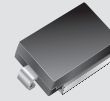
SRS AIRBAG



## Schottky Rectifiers

**V20PWM10HM3** – High Current Density, High Voltage  
TMBS® Rectifier

- 20 A, 100 V low leakage Schottky rectifiers for freewheeling and rectification
- SlimDPAK (TO-252AE) package with low profile of 1.3 mm



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

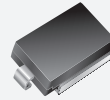
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Schottky Rectifiers

**VSSAF5M6HM3** – High Current Density, High Voltage  
TMBS® Rectifier

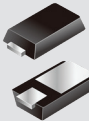
- 5 A, 60 V Schottky rectifiers, high temperature, low leakage, high current density
- SlimSMA (DO-221AC) package with low profile of 0.95 mm and compatible pad layout to SMA (DO-220AC)



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

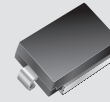
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With  
High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

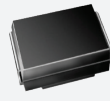
- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With  
High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS  
for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- 1 A, 100 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (DO-219AB) package with < 1 mm low profile



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in  
SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

- 3 A, 100 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes  
in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode





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# PASSIVE SAFETY RESTRAINT SYSTEM POWER SUPPLIES

SRS AIRBAG



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPc (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# PASSIVE SAFETY PEDESTRIAN PROTECTION SYSTEMS



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## Schottky Rectifiers

**V20PWM10HM3** – High Current Density, High Voltage  
TMBS® Rectifier

- 20 A, 100 V low leakage Schottky rectifiers for freewheeling and rectification
- SlimDPAK (TO-252AE) package with low profile of 1.3 mm



## Schottky Rectifiers

**VSSAF5M6HM3** – High Current Density, High Voltage  
TMBS® Rectifier

- 5 A, 60 V Schottky rectifiers, high temperature, low leakage, high current density
- SlimSMA (DO-221AC) package with low profile of 0.95 mm and compatible pad layout to SMA (DO-220AC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With  
High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With  
High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-1EFH01HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

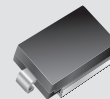
- 1 A, 100 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (DO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH01HM3** – High Current Density, Soft Recovery,  
FRED Pt® Ultrafast Diode

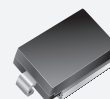
- 3 A, 100 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

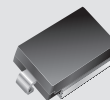
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

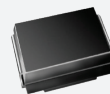
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density  
Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS  
for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic  
Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for  
General Purpose

- Silicon epitaxial planar diode



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# PASSIVE SAFETY PEDESTRIAN PROTECTION SYSTEMS



## Ultrafast Rectifiers

**VS-6CSH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3$  A, 100 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175$  °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH01HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4$  A, 100 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175$  °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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EXTERIOR LIGHTING

**LED HEADLIGHT UNITS**

**DAY LIGHTING**

**LED FOG LIGHTING**

**REAR AND SIGNAL LED LIGHTS**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)



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# EXTERIOR LIGHTING LED HEADLIGHT UNITS



## Schottky Rectifiers

**V8PAM12HM3** – High Current Density, High Voltage Schottky Rectifiers

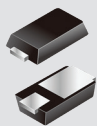
- 8 A, 120 V for freewheeling and high frequency rectification
- SMPA (DO-221BC) package with low profile of 0.95 mm



## Schottky Rectifiers

**V10P10HM3** – High Current Density, High Voltage TMBS® Rectifier

- 10 A, 100 V for freewheeling and high frequency rectification
- SMPC (TO-277A) package with low profile of 1.1 mm



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

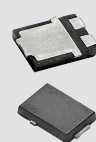
- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 3 A, 200 V for high frequency switching, 25 ns recovery, Tjmax = 175 °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 4 A, 200 V for high frequency switching, 22 ns recovery, Tjmax = 175 °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## TVS

**TPSMA Series** – Surface-Mount PAR® Transient Voltage Suppressor With Wide Operating Temperature Range

- 400 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle) of 0.01 %; up to 43 V breakdown voltage
- SMA (DO-214AC) package



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring bullet
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

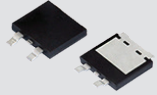
- Silicon epitaxial planar diode





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# EXTERIOR LIGHTING LED HEADLIGHT UNITS



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 8 A, 200 V for high frequency switching, 27 ns recovery, Tjmax = 175 °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

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- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of ± 2.5 %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# EXTERIOR LIGHTING DAY LIGHTING



## Schottky Rectifiers

**V8PAM12HM3** – High Current Density, High Voltage Schottky Rectifiers

- 8 A, 120 V for freewheeling and high frequency rectification
- SMPA (DO-221BC) package with low profile of 0.95 mm



## Schottky Rectifiers

**VSSAF5M6HM3** – High Current Density, High Voltage TMBS® Rectifier

- 5 A, 60 V Schottky rectifiers, high temperature, low leakage, high current density
- SlimSMA (DO-221AC) package with low profile of 0.95 mm and compatible pad layout to SMA (DO-220AC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

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**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

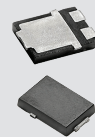
- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

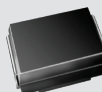
- 2 × 3 A, 200 V for high frequency switching, 25 ns recovery, Tjmax = 175 °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 4 A, 200 V for high frequency switching, 22 ns recovery, Tjmax = 175 °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## TVS

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- 400 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle) of 0.01 %; up to 43 V breakdown voltage
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- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

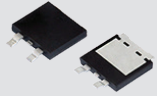
**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode



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# EXTERIOR LIGHTING DAY LIGHTING



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 8 A, 200 V for high frequency switching, 27 ns recovery, Tjmax = 175 °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of ± 2.5 %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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# EXTERIOR LIGHTING LED FOG LIGHTING



## Schottky Rectifiers

**V8PAM12HM3** – High Current Density, High Voltage Schottky Rectifiers

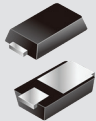
- 8 A, 120 V for freewheeling and high frequency rectification
- SMPA (DO-221BC) package with low profile of 0.95 mm



## Schottky Rectifiers

**VSSAF5M6HM3** – High Current Density, High Voltage TMBS® Rectifier

- 5 A, 60 V Schottky rectifiers, high temperature, low leakage, high current density
- SlimSMA (DO-221AC) package with low profile of 0.95 mm and compatible pad layout to SMA (DO-220AC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

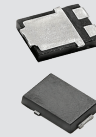
- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

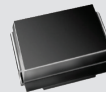
- 2 × 3 A, 200 V for high frequency switching, 25 ns recovery, Tjmax = 175 °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 4 A, 200 V for high frequency switching, 22 ns recovery, Tjmax = 175 °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## TVS

**TPSMA Series** – Surface-Mount PAR® Transient Voltage Suppressor With Wide Operating Temperature Range

- 400 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle) of 0.01 %; up to 43 V breakdown voltage
- SMA (DO-214AC) package



## Small Signal Schottky Diodes

**BAT54** – Single and Dual Construction Protect Against Excessive Voltage

- Very low turn-on voltage and fast switching
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

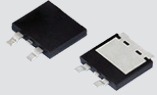
**BAV23C** – Fast Switching Dual Diode With Common Cathode

- Silicon epitaxial planar diode



The DNA of tech.

# EXTERIOR LIGHTING LED FOG LIGHTING



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

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## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable





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# EXTERIOR LIGHTING REAR AND SIGNAL LED LIGHTS



## Schottky Rectifiers

**V8PAM12HM3** – High Current Density, High Voltage Schottky Rectifiers

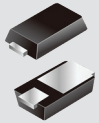
- 8 A, 120 V for freewheeling and high frequency rectification
- SMPA (DO-221BC) package with low profile of 0.95 mm



## Schottky Rectifiers

**VSSAF5M6HM3** – High Current Density, High Voltage TMBS® Rectifier

- 5 A, 60 V Schottky rectifiers, high temperature, low leakage, high current density
- SlimSMA (DO-221AC) package with low profile of 0.95 mm and compatible pad layout to SMA (DO-220AC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

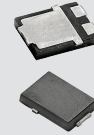
- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 3 A, 200 V for high frequency switching, 25 ns recovery, Tjmax = 175 °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 4 A, 200 V for high frequency switching, 22 ns recovery, Tjmax = 175 °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## TVS

**TPSMA Series** – Surface-Mount PAR® Transient Voltage Suppressor With Wide Operating Temperature Range

- 400 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle) of 0.01 %; up to 43 V breakdown voltage
- SMA (DO-214AC) package



## TVS

**TPSMB Series** – Surface-Mount PAR® Transient Voltage Suppressor With Wide Operating Temperature Range

- 600 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle) of 0.01 % up to 43 V breakdown voltage
- SMB (DO-214AA) package



## Small Signal Schottky Diodes

**BAT54** – Single and Dual Construction Protect Against Excessive Voltage

- Very low turn-on voltage and fast switching
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

**BAV23C** – Fast Switching Dual Diode With Common Cathode

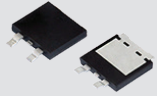
- Silicon epitaxial planar diode





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# EXTERIOR LIGHTING REAR AND SIGNAL LED LIGHTS



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8$  A, 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175$  °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

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## Zener Diodes

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- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



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48 VDC BOARDNET

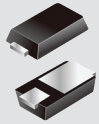
**INTEGRATED STARTER GENERATORS (48 VDC)  
DC/DC CONVERTERS, BIDIRECTIONAL (48 VDC)  
HVAC (E-COMPRESSOR FOR 48 VDC)**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)



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# 48 VDC BOARDNET INTEGRATED STARTER GENERATORS (48 VDC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

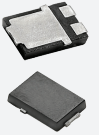
- 1 A, 200 V for high frequency switching, 17 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 3\text{ A}$ , 200 V for high frequency switching, 25 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 4\text{ A}$ , 200 V for high frequency switching, 22 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- $2 \times 8\text{ A}$ , 200 V for high frequency switching, 27 ns recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$
- SMPD (TO-263AC) package with 1.3 mm low profile



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode



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# 48 VDC BOARDNET INTEGRATED STARTER GENERATORS (48 VDC)



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

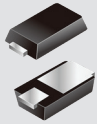
- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable





The DNA of tech.

# 48 VDC BOARDNET DC/DC CONVERTERS, BIDIRECTIONAL (48 VDC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

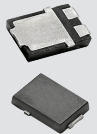
- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 3 A, 200 V for high frequency switching, 25 ns recovery, Tjmax = 175 °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 2 × 4 A, 200 V for high frequency switching, 22 ns recovery, Tjmax = 175 °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

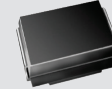
- 2 × 8 A, 200 V for high frequency switching, 27 ns recovery, Tjmax = 175 °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## TVS

**P6SMB Series** – Surface-Mount TransZorb® Transient Voltage Suppressor

- 600 W uni- and bidirectional TVS with up to 540 V breakdown voltage, AEC-Q101 qualified
- SMB (DO-214AA) package



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode



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# 48 VDC BOARDNET DC/DC CONVERTERS, BIDIRECTIONAL (48 VDC)



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- 500 mW power dissipation, excellent thermal characteristics,  $R_{thJA}$  130 k/W
- Symmetrical leads are wave and reflow solderable



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Zener Diodes

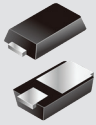
**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



The DNA of tech.

# 48 VDC BOARDNET HVAC (E-COMPRESSOR FOR 48 VDC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-1EFH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 1 A, 200 V for high frequency switching, 17 ns recovery, Tjmax = 175 °C
- SMF (TO-219AB) package with < 1 mm low profile



## Ultrafast Rectifiers

**VS-2EJH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

- 3 A, 200 V for high frequency switching, 20 ns recovery, Tjmax = 175 °C
- SlimSMA (DO-221AC) package with 1 mm low profile



## Ultrafast Rectifiers

**VS-6CSH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

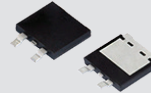
- 2 × 3 A, 200 V for high frequency switching, 25 ns recovery, Tjmax = 175 °C
- SMPC (TO-277A) package with 1.1 mm low profile



## Ultrafast Rectifiers

**VS-8CVH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

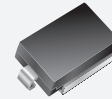
- 2 × 4 A, 200 V for high frequency switching, 22 ns recovery, Tjmax = 175 °C
- SlimDPAK (TO-252AE) package with 1.3 mm low profile



## Ultrafast Rectifiers

**VS-16CDH02HM3** – High Current Density, Soft Recovery, FRED Pt® Ultrafast Diode

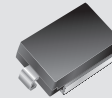
- 2 × 8 A, 200 V for high frequency switching, 27 ns recovery, Tjmax = 175 °C
- SMPD (TO-263AC) package with 1.3 mm low profile



## TVS

**SM5S10AT thru SM5S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

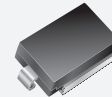
- 5000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM6S10AT thru SM6S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

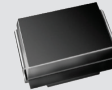
- 6000 W clamping power rating for ISO16750-2:2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SM8S10AT thru SM8S43AT** – High Power Density Uni-Directional TVS for Power Line Load Dump

- 8000 W clamping power rating for ISO16750-2: 2012 Pulse a
- High clamping power capability for load dump protection and freewheeling



## TVS

**SMC3K Series** – High Power Density Bidirectional TVS for Power Line Protection

- 3000 W clamping power rating for ISO16750-2:2012 Pulse b
- Designed for the protection of centralized load dump suppression powertrains



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



The DNA of tech.

# 48 VDC BOARDNET HVAC (E-COMPRESSOR FOR 48 VDC)



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5$  %
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode



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FULL HYBRID VEHICLES (HEVS)

**ELECTRICAL MOTOR DRIVES (DC/AC)**

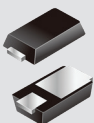
For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)





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# FULL HYBRID VEHICLES (HEVs) ELECTRICAL MOTOR DRIVES (DC/AC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Ultrafast Rectifiers

**VS-ETH3007THN3** – High Current Density FRED Pt® Ultrafast Rectifiers in Through-Hole TO-220AC 2 Pin Package

- 30 A, 650 V, low  $Q_{rr}$  for high efficiency OBC
- Soft recovery,  $T_j \text{ max} = 175^\circ\text{C}$ , AEC-Q101 qualified



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

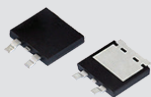
- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-ETU3006SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low VF for high efficiency OBC
- Soft recovery,  $T_j \text{ max} = 175^\circ\text{C}$ , D<sup>2</sup>PAK (TO-263AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-16EDU06HM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 16 A, 600 V with low VF for high efficiency OBC
- Soft recovery,  $T_j \text{ max} = 175^\circ\text{C}$ , SMPD (TO-263AC) package with 1.3 mm low profile, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETX3007THN3** – High Current Density FRED Pt® Ultrafast Rectifiers in Through-Hole TO-220AC 2 Pin Package

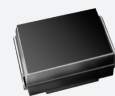
- 30 A, 600 V, lowest  $Q_{rr}$  for high frequency OBC
- Soft recovery,  $T_j \text{ max} = 175^\circ\text{C}$ , AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-30CDU06HM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low VF for high efficiency OBC
- Soft recovery,  $T_j \text{ max} = 175^\circ\text{C}$ , SMPD (TO-263AC) package with 1.3 mm low profile, AEC-Q101 qualified



## TVS

**1.5SMC Series** – Surface-Mount TransZorb® Transient Voltage Suppressor

- Up to 540 V breakdown voltage, available in uni-directional or bidirectional, high voltage TVS
- SMC (DO-214AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETH1506SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 15 A, 600 V with low  $Q_{rr}$  for high frequency OBC
- Soft recovery,  $T_j \text{ max} = 175^\circ\text{C}$ , D<sup>2</sup>PAK (TO-263AB) package, AEC-Q101 qualified



## TVS

**P6SMB Series** – Surface-Mount TransZorb® Transient Voltage Suppressor

- 600 W uni- and bidirectional TVS with up to 540 V breakdown voltage, AEC-Q101 qualified
- SMB (DO-214AA) package



## Ultrafast Rectifiers

**VS-ETH3006SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low  $Q_{rr}$  for high frequency OBC
- Soft recovery,  $T_j \text{ max} = 175^\circ\text{C}$ , D<sup>2</sup>PAK (TO-263AB) package, AEC-Q101 qualified



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



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# FULL HYBRID VEHICLES (HEVs) ELECTRICAL MOTOR DRIVES (DC/AC)



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Silicon epitaxial planar diode
- Fast switching diode



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FULL ELECTRIC VEHICLES (FEVS)

**ELECTRICAL MOTOR DRIVES (DC/AC)  
BATTERY MANAGEMENT AND DC/DC  
ON-BOARD CHARGERS**

For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)



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# FULL ELECTRIC VEHICLES (FEVs) ELECTRICAL MOTOR DRIVES (DC/AC)



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

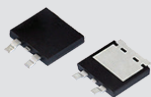
- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE30AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Low profile of 0.95 mm, compatible with SMA (DO-220AC) pad layout



## Ultrafast Rectifiers

**VS-16EDU06HM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 16 A, 600 V with low VF for high efficiency OBC
- Soft recovery, Tjmax = 175 °C, SMPD (TO-263AC) package with 1.3 mm low profile, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-30CDU06HM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low VF for high efficiency OBC
- Soft recovery, Tjmax = 175 °C, SMPD (TO-263AC) package with 1.3 mm low profile, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETH1506SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 15 A, 600 V with low Qrr for high frequency OBC
- Soft recovery, Tjmax = 175 °C, D²PAK (TO-263AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETH3006SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low Qrr for high frequency OBC
- Soft recovery, Tjmax = 175 °C, D²PAK (TO-263AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETH3007THN3** – High Current Density FRED Pt® Ultrafast Rectifiers in Through-Hole TO-220AC 2-Pin Package

- 30 A, 650 V, low Qrr for high efficiency OBC
- Soft recovery, Tj max = 175 °C, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETU3006SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low VF for high efficiency OBC
- Soft recovery, Tjmax = 175 °C, D²PAK (TO-263AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETX3007THN3** – High Current Density FRED Pt® Ultrafast Rectifiers in Through-Hole TO-220AC 2-Pin Package

- 30 A, 600 V, lowest Qrr for high frequency OBC
- Soft recovery, Tj max = 175 °C, AEC-Q101 qualified



## TVS

**1.5SMC Series** – Surface-Mount TransZorb® Transient Voltage Suppressor

- Up to 540 V breakdown voltage, available in uni-directional or bidirectional, high voltage TVS
- SMC (DO-214AB) package, AEC-Q101 qualified



## TVS

**P6SMB Series** – Surface-Mount TransZorb® Transient Voltage Suppressor

- 600 W uni- and bidirectional TVS with up to 540 V breakdown voltage, AEC-Q101 qualified
- SMB (DO-214AA) package



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



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# FULL ELECTRIC VEHICLES (FEVs) ELECTRICAL MOTOR DRIVES (DC/AC)



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



## Small Signal Schottky Diodes

**BAT46W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

- Very low turn-on voltage and fast switching
- Protected by a PN junction guard ring against excessive voltage such as electrostatic discharges



## Small Signal Switching Diodes

**1N4448W** – Small Signal Schottky and Switching Diodes in SOD-123 Package

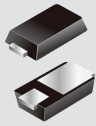
- Silicon epitaxial planar diode
- Fast switching diode





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# FULL ELECTRIC VEHICLES (FEVs) BATTERY MANAGEMENT AND DC/DC



## Standard Rectifiers

**MSE1P Series** – Miniature-Package Rectifiers With High ESD Capability for Rail to Rail Signal Line Protection

- High ESD voltage, current density, and surge current capability
- MicroSMP (DO-219AD) package with 0.65 mm low profile saves space



## Standard Rectifiers

**SE20AF Series** – High Current Density Rectifiers With High ESD Capability for Power Line Protection

- High ESD voltage, current density, and surge current capability
- Compatible pad layout to SMA (DO-220AC) with low profile of 0.95 mm



## Ultrafast Rectifiers

**VS-16EDU06HM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 16 A, 600 V with low VF for high efficiency OBC
- Soft recovery, Tjmax = 175 °C, SMPD (TO-263AC) package with 1.3 mm low profile, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-30CDU06HM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low VF for high efficiency OBC
- Soft recovery, Tjmax = 175 °C, SMPD (TO-263AC) package with 1.3 mm low profile, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETH1506SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

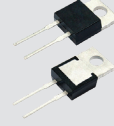
- 15 A, 600 V with low Qrr for high frequency OBC
- Soft recovery, Tjmax = 175 °C, D²PAK (TO-263AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETH3006SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low Qrr for high frequency OBC
- Soft recovery, Tjmax = 175 °C, D²PAK (TO-263AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETH3007THN3** – High Current Density FRED Pt® Ultrafast Rectifiers in Through-Hole TO-220AC 2-Pin Package

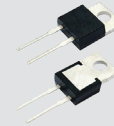
- 30 A, 650 V, low Qrr for high efficiency OBC
- Soft recovery, Tj max = 175 °C, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETU3006SHM3** – High Current Density FRED Pt® Ultrafast Rectifiers

- 30 A, 600 V, low VF for high efficiency OBC
- Soft recovery, Tjmax = 175 °C, D²PAK (TO-263AB) package, AEC-Q101 qualified



## Ultrafast Rectifiers

**VS-ETX3007THN3** – High Current Density FRED Pt® Ultrafast Rectifiers in Through-Hole TO-220AC 2-Pin Package

- 30 A, 600 V, lowest Qrr for high frequency OBC
- Soft recovery, Tj max = 175 °C, AEC-Q101 qualified



## TVS

**TA6F Series** – Surface-Mount PAR® Transient Voltage Suppressor for High Temperature Stability and High Reliability Conditions

- Tj = 185 °C, suitable for high reliability conditions and automotive applications
- SlimSMA (DO-221AC) package with 0.95 mm low profile, compatible pad layout to SMA (DO-220AC)



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



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# FULL ELECTRIC VEHICLES (FEVs) BATTERY MANAGEMENT AND DC/DC



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring bullet
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



## Small Signal Switching Diodes

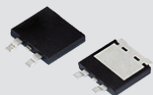
**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode



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# FULL ELECTRIC VEHICLES (FEVs) ON-BOARD CHARGERS



## Ultrafast Rectifiers

**VS-30CDU06HM3** – High Current Density FRED Pt®

### Ultrafast Rectifiers

- 30 A, 600 V, low VF for high efficiency OBC
- Soft recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$ , SMPD (TO-263AC) package with 1.3 mm low profile, AEC-Q101 qualified

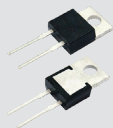


## Ultrafast Rectifiers

**VS-ETH3006SHM3** – High Current Density FRED Pt®

### Ultrafast Rectifiers

- 30 A, 600 V, low  $Q_{rr}$  for high frequency OBC
- Soft recovery,  $T_{jmax} = 175\text{ }^{\circ}\text{C}$ , D<sup>2</sup>PAK (TO-263AB) package, AEC-Q101 qualified

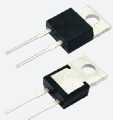


## Ultrafast Rectifiers

**VS-ETH3007THN3** – High Current Density FRED Pt®

### Ultrafast Rectifiers in Through-Hole TO-220AC 2-Pin Package

- 30 A, 650 V, low  $Q_{rr}$  for high efficiency OBC
- Soft recovery,  $T_j \text{ max} = 175\text{ }^{\circ}\text{C}$ , AEC-Q101 qualified

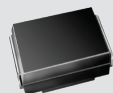


## Ultrafast Rectifiers

**VS-ETX3007THN3** – High Current Density FRED Pt®

### Ultrafast Rectifiers in Through-Hole TO-220AC 2-Pin Package

- 30 A, 600 V, lowest  $Q_{rr}$  for high frequency OBC
- Soft recovery,  $T_j \text{ max} = 175\text{ }^{\circ}\text{C}$ , AEC-Q101 qualified



## TVS

**1.5SMC Series** – Surface-Mount TransZorb® Transient Voltage Suppressor

- Up to 540 V breakdown voltage, available in uni-directional or bidirectional, high voltage TVS
- SMC (DO-214AB) package, AEC-Q101 qualified



## TVS

**P6SMB Series** – Surface-Mount TransZorb® Transient Voltage Suppressor

- 600 W uni- and bidirectional TVS with up to 540 V breakdown voltage, AEC-Q101 qualified
- SMB (DO-214AA) package



## Zener Diodes

**BZD27B Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- 2 % Zener voltage tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27B-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free, 2 % tolerance
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**BZD27C-M Series** – Zener Diodes in Low Profile SMF (DO-219AB) Package With Surge Current Specification

- 43 breakdown voltages from 3.6 V to 200 V
- Halogen free
- Symmetrical leads are wave and reflow solderable



## Zener Diodes

**PLZ Series** – 500 mW Zener Diodes in Low Profile MicroSMF (DO-219AC) Package Provide Voltage Stabilization

- Very tight Zener voltage tolerances of  $\pm 2.5\%$
- ESD and surge rated
- Symmetrical leads are wave and reflow solderable



## Small Signal Schottky Diodes

**SD103AWS** – Ideal for Fast Switching and Low Logic Level Applications

- Metal on silicon Schottky diode protected by PN junction guard ring bullet
- Low forward voltage drop and fast switching ideal for protection of MOS devices, steering, biasing, and coupling diodes



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# FULL ELECTRIC VEHICLES (FEVs) ON-BOARD CHARGERS



Small Signal Switching Diodes

**BAV21WS** – Fast Switching Diode for General Purpose

- Silicon epitaxial planar diode



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NETWORKS

**CAN BUS, LIN BUS, FLEX BUS**

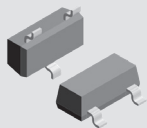
For technical questions within your region, please contact: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com)





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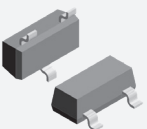
# NETWORKS CAN BUS, LIN BUS, FLEX BUS



## ESD Protection

**VGSOTxx Series** – 1-Line Uni-Directional Protection Diode in SOT-23 Package

- Working range from 3 V up to 36 V;  $\pm 30$  kV air and contact discharge
- Very common SOT-23 package
- Peak pulse power up to 540 W at 8/20  $\mu$ s pulse



## ESD Protection

**VGSOTxxC Series** – 2-Line Uni-Directional Protection Diode in SOT-23 Package

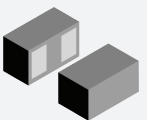
- Working range from 3 V up to 36 V;  $\pm 30$  kV air and contact discharge
- Very common SOT-23 package
- Peak pulse power up to 540 W at 8/20  $\mu$ s pulse



## ESD Protection

**SMF-Series** – Uni-Directional ESD Protection Diode in Low Profile SMF (DO-219AB)

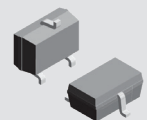
- Devices offer low 1 mm profile, low noise technology, fast response times
- Symmetrical leads are wave- and reflow-solderable



## ESD Protection

**VBUS05B1-SD0** – Bidirectional Low Cap ESD Protection Diode in Tiny CLP0603 Package

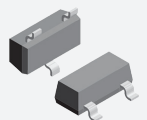
- Capacitance down to 0.29 pF typical
- CLP0603 package is one of the smallest in the industry; low profile of 0.27 mm and uses 3 $\times$  less board space than 1006 case size



## ESD Protection

**VCAN26A2-03G** – 2-Line Bidirectional Protection Diode in Compact SOT-323 Package

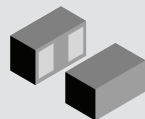
- Working range of  $\pm 26.5$  V; low leakage current  $I_R < 0.05$   $\mu$ A
- Low load capacitance  $C_D < 13$  pF
- CAN BUS related performance in smallest SOT-323 package



## ESD Protection

**VCAN26A2-03S** – 2-Line Bidirectional Protection Diode in SOT-23 Package

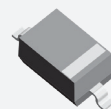
- Working range of  $\pm 26.5$  V; low leakage current  $I_R < 0.05$   $\mu$ A
- Low load capacitance  $C_D < 13$  pF
- Very common SOT-23 package



## ESD Protection

**VCUT05G1-SD0** – Bidirectional ESD Protection Diode in Tiny CLP0603 Package

- Working range of  $\pm 5.5$  V; low leakage current  $I_R < 0.1$   $\mu$ A; low load capacitance  $C_D < 14$  pF
- CLP0603 package is one of the smallest in the industry; low profile of 0.27 mm and uses 3 $\times$  less board space than 1006 case size



## ESD Protection

**VLIN1616-02G** – 1-Line Bidirectional Protection Diode in Compact SOD-323 Package

- Working range of  $\pm 16$  V; low leakage current  $I_R < 0.05$   $\mu$ A
- Low load capacitance  $C_D < 24$  pF
- LIN BUS related performance in smallest SOD-323 package



## ESD Protection

**VLIN1626-02G** – 1-Line Bidirectional Protection Diode in Compact SOD-323 Package

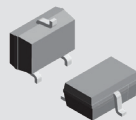
- Low load capacitance of 15.5 pF typical and 18 pF maximum
- Compact SOD-323 package measures only 1.95 mm x 1.5 mm with low 0.95 mm profile



## ESD Protection

**VLIN2626-02G** – 1-Line Bidirectional Protection Diode in Compact SOD-323 Package

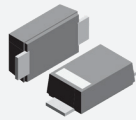
- Working range of  $\pm 26.5$  V; low leakage current  $I_R < 0.05$   $\mu$ A
- Low load capacitance  $C_D < 16$  pF
- LIN BUS related performance in smallest SOD-323 package



## ESD Protection

**VLIN26A1-03G** – 1-Line Bidirectional Protection Diode in Compact SOT-323 Package

- Working range of  $\pm 26.5$  V; low leakage current  $I_R < 0.05$   $\mu$ A
- Low load capacitance  $C_D < 13$  pF
- LIN BUS related performance in smallest SOT-323 package



## ESD Protection

**VTVS-Series** – Uni-Directional ESD Protection Diode in Low Profile SMF (DO-219AB)

- Feature a 2 % breakdown voltage tolerance, low 1 mm profile, low noise technology, and fast response times
- Symmetrical leads are wave- and reflow-solderable