



INDUSTRIAL APPLICATIONS

Diodes and Rectifiers,
Modules, and SCR Thyristors



FACTORY
AUTOMATION



FABRICATION



DETECTION



SURVEILLANCE
SYSTEMS



INDUSTRIAL APPLICATIONS

Diodes and Rectifiers, Modules, and SCR Thyristors



Factory Automation

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- 4 Testers
- 4 Control Units
- 5 Air Conditioning Systems
- 5 Laser Marking and Coding
- 6 Collaborative Robots (Cobots)
- 6 Low Voltage UPS



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- 14 Access Control Systems / Door and Gate Openers
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For technical questions within your region, please contact: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com



FACTORY AUTOMATION

Motor Drives

Testers

Control Units

Air Conditioning Systems

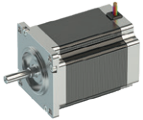
Laser Marking and Coding

Collaborative Robots (Cobots)

Low Voltage UPS



Motor Drives



DIODES

BZG03 Series – Small Signal Zener Diodes

- Silicon planar Zener diode, 10 V to 270 V
- Non-repetitive peak surge power of 300 W (tested with 10/1000 μ s current wave form)
- Wave and reflow solderable



MODULES

VS-160MT180C, VS-300MT180C – Three-Phase Bridge Rectifiers

- High blocking voltage up to 1800 V, output current up to 300 A
- High surge current to 2512 A, UL-approved file E78996
- Input rectification for AC/DC three-phase rectification

Testers



RECTIFIERS

VS-15ETH06FP-N3 – FRED Pt[®] Hyperfast Rectifiers, 15 A

- 175 °C operating junction temperature
- Hyperfast recovery time



RECTIFIERS

GSIB1560N – Glass Passivated Single-Phase, Single in-Line Bridge Rectifiers

- 150 °C operating junction temperature
- High forward surge current capability
- General purpose use in AC/DC bridge full wave rectification



DIODES

SMCJxx – TRANSZORB[®] Transient Voltage Suppressors, Surface-Mount

- Available in unidirectional and bidirectional versions
- AEC-Q101 qualified



DIODES

BZD27 Series – Small Signal Zener Diodes

- Zener and surge current specification, 3.6 V to 200 V
- ESD capability according to AEC-Q101, human body model: > 8 kV
- Wave and reflow solderable

Control Units



DIODES

BAT46W – Small Signal Schottky Diodes

- Very low turn-on voltage
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges
- 100 V, 100 mA



Air Conditioning Systems



RECTIFIERS

VS-E4TU2006FP-N3 – PFC Diodes

- Low EMI
- Optimizes PFC efficiency
- $T_j \text{ max} = 175 \text{ }^\circ\text{C}$



RECTIFIERS

VS-C4ZU6006FP-E3 – PFC Diodes

- Low EMI
- Optimizes PFC efficiency
- $T_j \text{ max} = 175 \text{ }^\circ\text{C}$



RECTIFIERS

GSIB2560N – Glass Passivated Single-Phase, Single in-Line Bridge Rectifiers

- 150 °C operating junction temperature
- High forward surge current capability
- General purpose use in AC/DC bridge full wave rectification

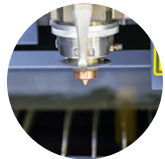


DIODES

PLZ Series – Small Signal Zener Diodes

- 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

Laser Marking and Coding



RECTIFIERS

V1FM10 – Surface-Mount TMBS® Rectifiers

- Trench MOS Schottky technology
- Low profile SMF (DO-219AB) package
- For use in high frequency inverters, freewheeling, DC/DC converters, and polarity protection in industrial applications



DIODES

BAS16 – Small Signal Fast Switching Diodes

- Silicon epitaxial planar diode, ultrafast switching speed
- High conductance



DIODES

MMBZ – Small Signal Zener Diodes

- Silicon planar power Zener diodes
- Enhanced Zener voltage tolerance of $\pm 2 \%$ with a “C” suffix (e.g.: MMBZ5225C)



Collaborative Robots (COBOTS)



RECTIFIERS

MSE1PJHM3 – Surface-Mount ESD Capability Rectifiers

- Very low profile: typical height of 0.65 mm
- Low forward voltage drop, low leakage current, ESD capability
- General purpose use, polarity protection, and rail to rail protection



RECTIFIERS

SE20PJ – Surface-Mount ESD Capability Rectifiers

- Very low profile: typical height of 1.0 mm
- Low forward voltage drop, low leakage current, ESD capability
- General purpose use, polarity protection, and rail to rail protection



RECTIFIERS

GSIB2580 – Single-Phase, Single in-Line Bridge Rectifiers

- Thin single in-line package; glass passivated chip junction
- High surge current capability; high case dielectric strength of 2500 V_{RMS}
- General purpose use in AC/DC bridge full wave rectification



DIODES

BAT46W – Small Signal Schottky Diodes

- Very low turn-on voltage
- PN junction guard ring protects against excessive voltage, such as electrostatic discharges
- 100 V, 100 mA

Low Voltage UPS



RECTIFIERS

SS1P3 – High Current Density, Surface-Mount Schottky Barrier Rectifiers

- Very low profile: typical height of 1.0 mm
- Low forward voltage drop, low power losses, high efficiency
- Low thermal resistance



RECTIFIERS

MSS1P3L – Surface-Mount Schottky Barrier Rectifiers

- Very low profile: typical height of 0.65 mm
- Low forward voltage drop, low power losses, high efficiency



DIODES

S07 Series – Standard Recovery Rectifiers, High Voltage

- Glass passivated
- Low profile SMF (DO-219AB) package
- For surface-mounted applications



MODULES

VS-FC420SA15 – Single Switch, MOSFET Modules in SOT-227 Package

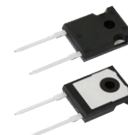
- 150 V ThunderFET Power MOSFET, I_D = 400 A
- Low R_{DS(on)} at 1.93 mΩ, ultra low gate charge (Q_g)
- Maximum 175 °C junction temperature. 100 V and 200 V also available



THYRISTORS

VS-50TPS12L-M3 – Phase Control Thyristors

- 50 A, 1200 V, high temperature operation to +150 °C
- High surge current to 630 A
- TO-247AD package



RECTIFIERS

VS-E5PH6012L-N3 – FRED Pt® Gen 5 1200 V Ultrafast Rectifiers

- 60 A, 1200 V, high temperature operation to +175 °C
- Best V_F and Q_{rr} for this application
- TO-247AD 2L package



FABRICATION

Welding

Cutting

3D Printers

Melting / Forging / Hardening



Welding



RECTIFIERS

VS-60CPH03 – High Voltage Rectifiers, 60 A

- 175 °C operating junction temperature
- Hyperfast recovery time



MODULES

VS-UFH280FA30 – FRED Pt® Diode Modules in SOT-227 Package

- 280 A, 300 V
- Hyperfast, soft reverse recovery, high operation junction temperature (175 °C)
- UL-approved file E78996



DIODES

PLZ Series – Small Signal Zener Diodes

- 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



MODULES

VS-VSUD410CW60 – Ultrafast Soft Recovery FRED Pt® Diode Modules in TO-244 Package

- 400 A, 600 V
- Specifically designed for HF welding and plasma cutting

Cutting



RECTIFIERS

SF1600 – Ultrafast Avalanche Sinterglass Diodes

- Hermetically sealed axial-leaded glass
- High reverse voltage



MODULES

VS-VSKDU300/06PbF – HEXFRED® Ultrafast Diodes

- 300 A, 600 V in IAP package, H / B configuration
- High surge capability
- UL-approved file E78996



DIODES

S07 Series – Standard Recovery Rectifiers, High Voltage

- Glass passivated
- Low profile SMF (DO-219AB) package
- For surface-mounted applications



MODULES

VS-VSUD400CW60 – FRED Pt® Ultrafast Soft Recovery Diode Modules, 400 A

- UL-approved file E222165
- Specifically designed for HF welding and plasma cutting



MODULES

VS-160MT180C, VS-300MT180C – Three-Phase Bridge Rectifiers

- High blocking voltage up to 1800 V, output current up to 300 A
- High surge current to 2512 A, UL-approved file E78996
- Input rectification for AC/DC three-phase rectification



3D Printers



DIODES

BZD27 Series – Small Signal Zener Diodes

- Zener and surge current specification, 3.6 V to 200 V
- ESD capability according to AEC-Q101, human body model: > 8 kV
- Wave and reflow solderable

Melting \ Forging \ Hardening



DIODES

PLZ Series – Small Signal Zener Diodes

- 500 mW Zener diodes in low profile MicroSMF (DO-219AC) package provide voltage stabilization
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DETECTION AND INITIAL SAFETY DEVICES

Gas

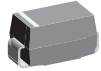
Flame / Fire

Smoke

Radiation



Gas



RECTIFIERS

EGF1T – Surface-Mount Glass Passivated Ultrafast Rectifiers

- Avalanche surge energy capability
- Low switching losses, high efficiency



DIODES

PLZ Series – Small Signal Zener Diodes

- 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

Flame / Fire



DIODES

SMAJ Series – Surface-Mount TRANSZORB® Transient Voltage Suppressors

- Available in unidirectional and bidirectional versions
- AEC-Q101 qualified



DIODES

SMBJ Series – Surface-Mount TRANSZORB® Transient Voltage Suppressors

- Available in unidirectional and bidirectional versions
- AEC-Q101 qualified



DIODES

TA6F Series – Surface-Mount PAR® Transient Voltage Suppressors

- Unidirectional
- AEC-Q101 qualified
- TA6F is slim type and compatible with SMA footprint



Smoke



DIODES

MMSZ5258 – Small Signal Zener Diodes

- AEC-Q101 qualified
- ESD capability according to AEC-Q101



DIODES

SMAJ Series – Surface-Mount TRANSZORB® Transient Voltage Suppressors

- Available in unidirectional and bidirectional versions
- AEC-Q101 qualified



DIODES

SMBJ Series – Surface-Mount TRANSZORB® Transient Voltage Suppressors

- Available in unidirectional and bidirectional versions
- AEC-Q101 qualified



DIODES

TA6F Series – Surface-Mount PAR® Transient Voltage Suppressors

- Unidirectional
- AEC-Q101 qualified
- TA6F is slim type and compatible with SMA footprint

Radiation



DIODES

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SURVEILLANCE SYSTEMS

Cameras / CCTV

Access Control Systems / Door and Gate Openers

RFID



Cameras / CCTV



RECTIFIERS

MSS1P4 – Surface Mount Schottky Barrier Rectifiers

- AEC-Q101 qualified
- Very low profile with typical height of 0.65 mm



RECTIFIERS

VSKY10401406 – FlipKY® Gen 2 Schottky Rectifiers in CLP Package

- 1 A forward current, low forward voltage drop
- Very low dimensions: 1.4 mm x 0.6 mm x 0.29 mm
- Schottky diode for high speed switching

DIODES



BZX84C18-E3-08 – Small Signal Zener Diodes

- AEC-Q101 qualified
- Silicon planar Zener diodes

Access Control Systems / Door and Gate Openers



DIODES

BAT46W – Small Signal Schottky Diodes

- Very low turn-on voltage
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- 100 V, 100 mA

RFID



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- ESD and surge rated