



The DNA of tech.[®]

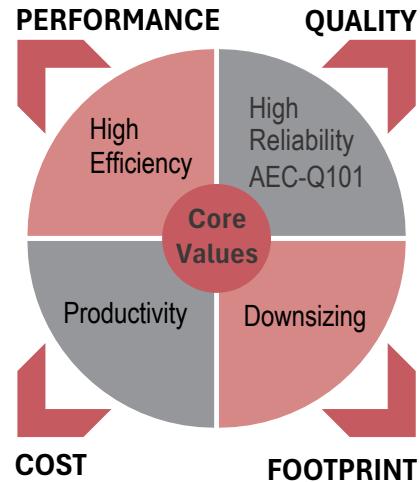
Diodes Package Evolution

Conventional Packages → eSMP[®] Package Series

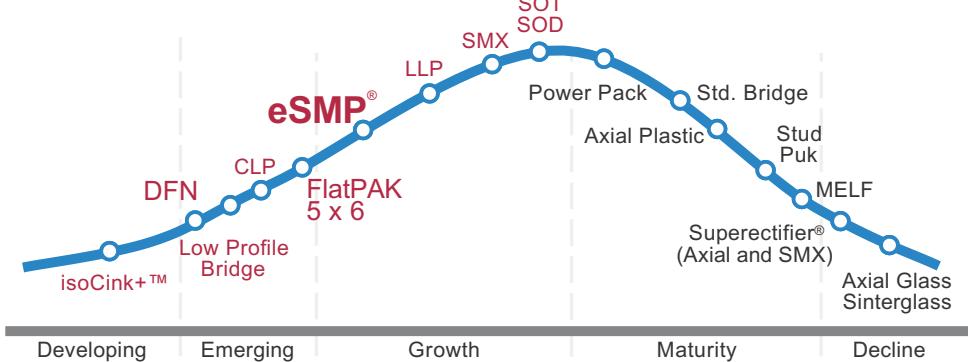
Why Vishay Diodes and Rectifiers

Surface-Mount Packages

PRODUCT DEVELOPMENT FOCUS



PRODUCT LIFE CYCLE



www.vishay.com

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INTRODUCING DFN PACKAGES FOR FUTURE DOWNSIZING

- Push the limit of miniaturization through reduction of thermal resistance and optimization of die size
- Leadless but support automotive AOI
- Vishay is setting a new industry standard for surface-mount packages



SET THE STANDARD FOR LOW-PROFILE PACKAGE

- Significant reduction in profile to around 1 mm
- High current / power density, facilitating customer system downsizing
- Vishay offers the broadest low profile eSMP® package portfolio



LED THE CONVERSION TO SURFACE-MOUNT

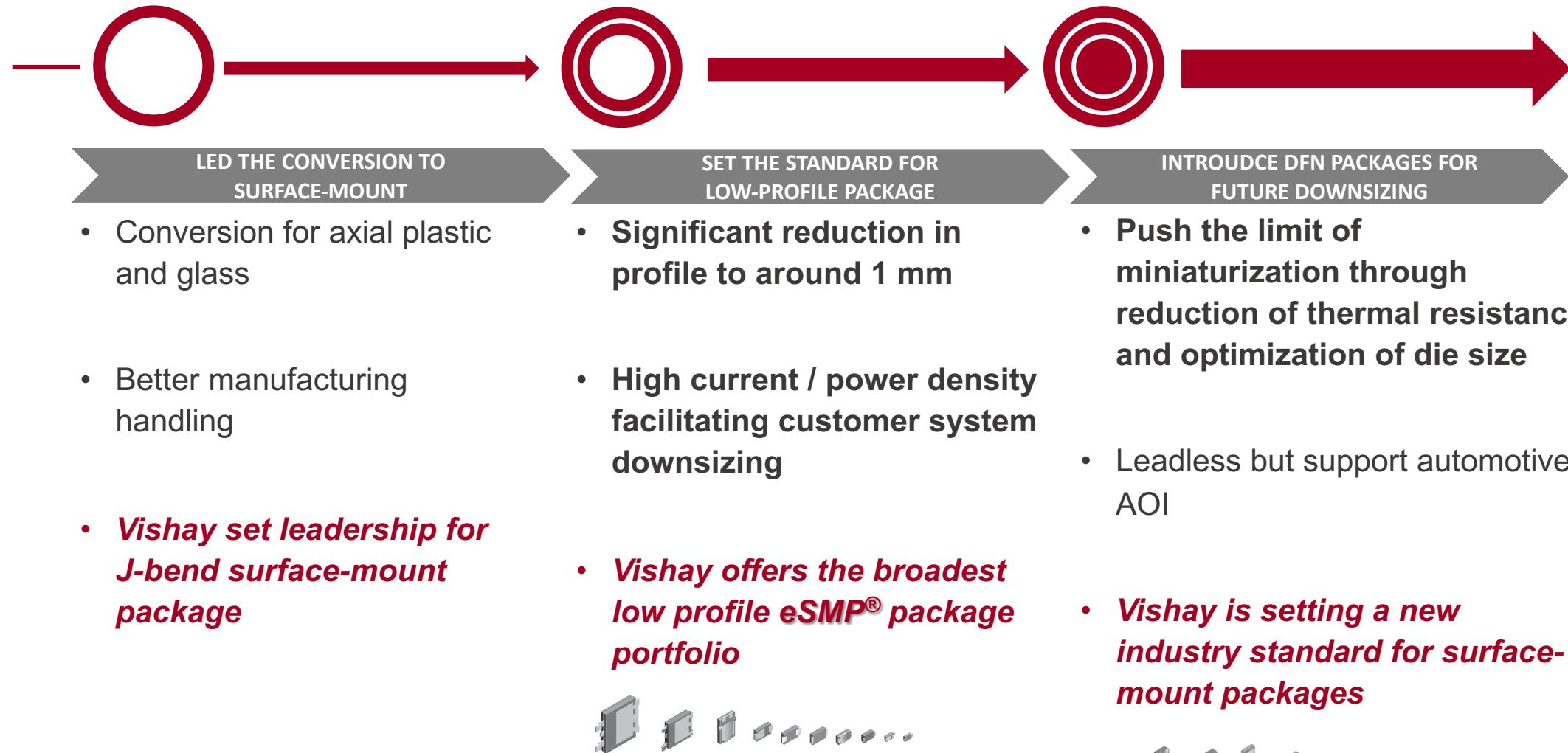
- Conversion for axial plastic and glass
- Better manufacturing handling
- Vishay set leadership for J-bend surface-mount package

LEARN MORE - OUR FOCUS TECHNOLOGIES

- [eSMP® Series](#)
- [Power DFN Series](#)
- [Signal DFN Package Series | Diodes | Vishay](#)

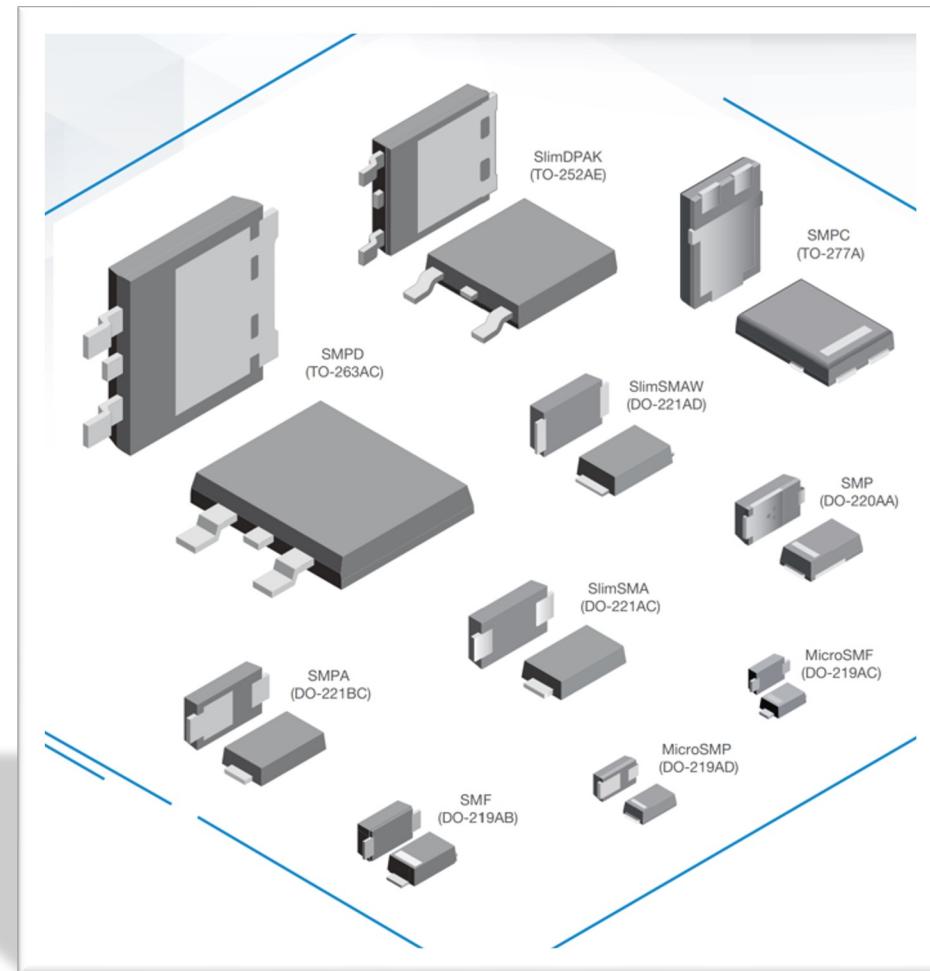


Why Vishay Diodes And Rectifiers Surface-mount Packages



eSMP[®] Series

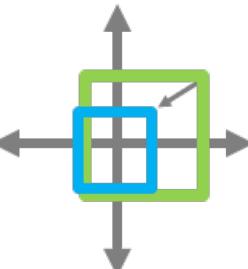
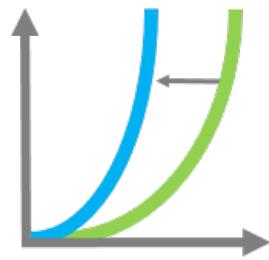
- Standard Rectifiers
- FRED Pt[®] Ultrafast Rectifiers
- Ultrafast Rectifiers
- Silicon Carbide (SiC) Schottky Rectifiers
- TMBS[®] Schottky Rectifiers
- Planar Schottky Rectifiers
- Transient Voltage Suppressor (TVS)
- ESD Protection
- Zener Diodes
- Small-Signal Schottky Diodes
- Small-Signal Switching Diodes



Diodes Focus Technologies

eSMP[®]

enhanced Surface-Mount Packages



Fast

Efficient

Small

Features

Space-saving packages



Excellent heat dissipation



Low device height



Low thermal resistance

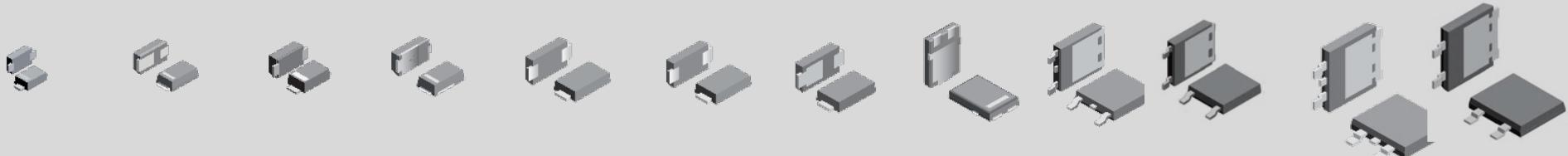


AEC-Q101 qualified



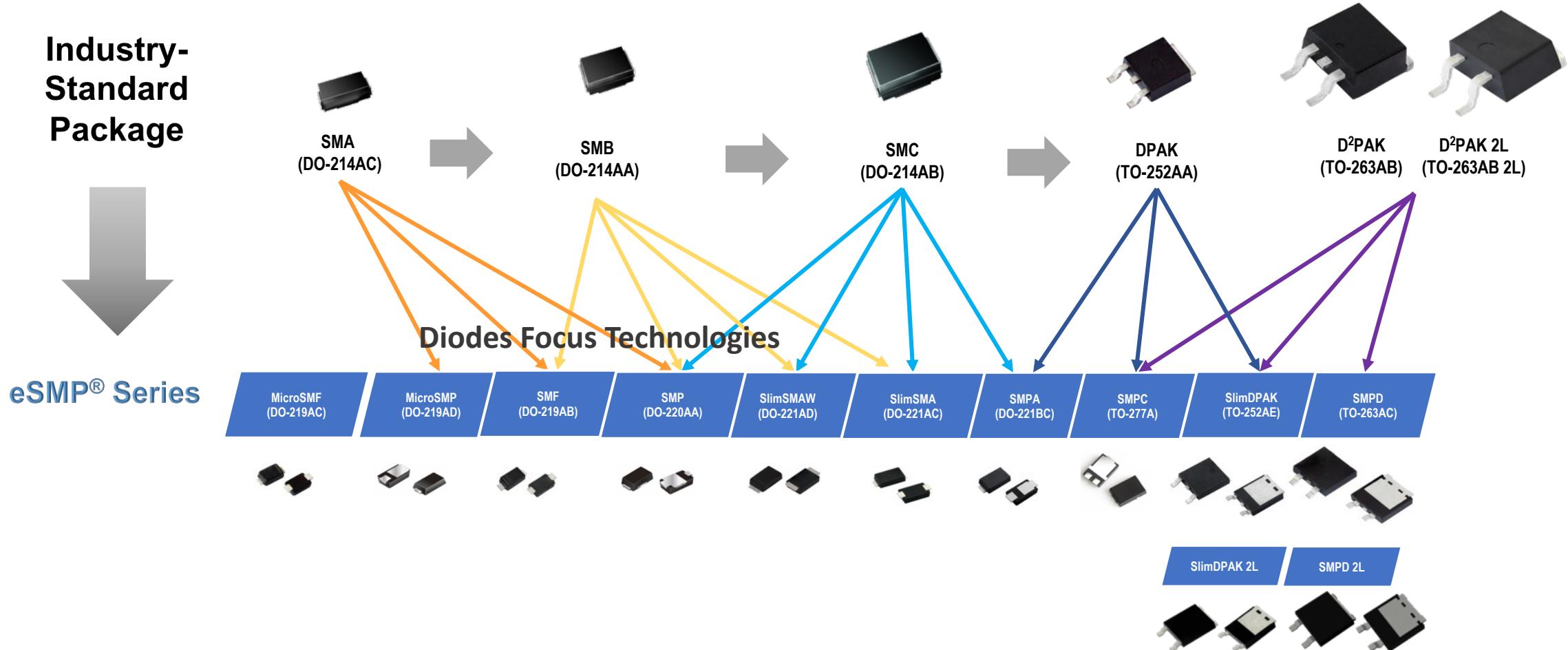
The eSMP[®] Series

MicroSMF (DO-219AC)	MicroSMP (DO-219AD)	SMF (DO-219AB)	SMP (DO-220AA)	SlimSMAW (DO-221AD)	SlimSMA (DO-221AC)	SMPA (DO-221BC)	SMPC (TO-277A)	SlimDPAK (TO-252AE)	SlimDPAK 2L	SMPD (TO-263AC)	SMPD 2L
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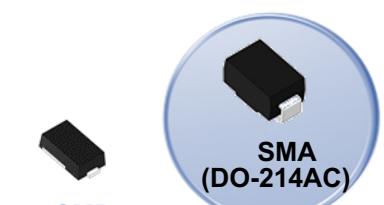


Higher Current Density for Symmetric and Asymmetric Packages
Better Thermal Performance for Asymmetrical Packages

Vishay Surface-Mount Packages Evolution



Vishay Surface-Mount Packages Evolution



SMP
(DO-220AA)

- 57 % in space
- 47 % in height
- 100 % in current rating

SMF
(DO-219AB)

- 49 % in space
- 46 % in height
- 100 % in current rating

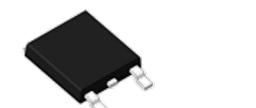
MicroSMP
(DO-219AD)

- 24 % in space
- 31 % in height
- 67 % in current rating



SMPC
(TO-277A)

- 46 % in space
- 48 % in height
- 250 % in current rating



SlimDPAK
(TO-252AE)

- 86 % in space
- 57 % in height
- 400 % in current rating



D²PAK
(TO-263AB)

SMPC
(TO-277A)

- 19 % in space
- 25 % in height
- 62 % in current rating



D²PAK 2L
(TO-263AB 2L)



SlimDPAK
(TO-252AE)

- 36 % in space
- 29 % in height
- 87 % in current rating

SMPD
(TO-263AC)

- 81 % in space
- 38 % in height
- 150 % in current rating



SMB
(DO-214AA)

SlimSMA
(DO-221AC)

- 70 % in space
- 41 % in height
- 71 % in current rating

SlimSMAW
(DO-221AD)

- 60 % in space
- 43 % in height
- 71 % in current rating

SMP
(DO-220AA)

- 40 % in space
- 43 % in height
- 43 % in current rating

SMF
(DO-219AB)

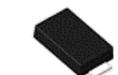
- 34 % in space
- 43 % in height
- 43 % in current rating



SMC
(DO-214AB)

SMPA
(DO-221BC)

- 29 % in space
- 41 % in height
- 80 % in current rating



SlimSMA
(DO-221AC)

- 29 % in space
- 41 % in height
- 50 % in current rating



SlimSMAW
(DO-221AD)

- 25 % in space
- 43 % in height
- 50 % in current rating



SMP
(DO-220AA)

- 17 % in space
- 43 % in height
- 30 % in current rating

Note:

1. Typical value is used for the space and height % calculations
2. eSMP® package is only xx % of conventional package

eSMP[®] Package Series

Asymmetrical



MicroSMP
(DO-219AD)



SMP
(DO-220AA)



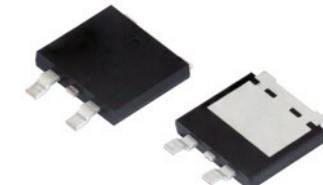
SMPA
(DO-221BC)



SMPC
(TO-277A)



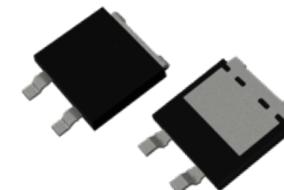
SlimDPAK
(TO-252AE)



SMPD
(TO-263AC)



SlimDPAK 2L



SMPD 2L

Symmetrical



MicroSMF
(DO-219AC)



SMF
(DO-219AB)



SlimSMA
(DO-221AC)



SlimSMAW
(DO-221AD)

Thyristor Module
Power Modules

xClampR® TVS isoClink+™ Bridge

Telecom Load Dump

TRANSZORB® TVS

Medium Power

Low Capacitance

High-Power Density

ESD Protection

Small-Signal Schottky

Small-Signal
Switching
Zener

ESD Capability Rectifiers

Power Package

Automotive

AEC-Q101

Low-Forward Voltage Drop

Low Profile Industrial

Silicon Carbide (SiC)

Discrete Thyristors

IGBT Module

Fast Response Time

PAR® TVS

High Power FlipKY®

Halogen-free

Space-Saving

High-ESD Immunity Surface Mount

Power Supply
EMI Filter

Bridge GREEN

DFN Packages

Standard Recovery

Fast Recovery
FRED Pt®

Schottky MOSFETs
Module

SUPERRECTIFIER®

High Performance Planar

Ultrafast Recovery

eSMP® Series

Packages **TMBS®**

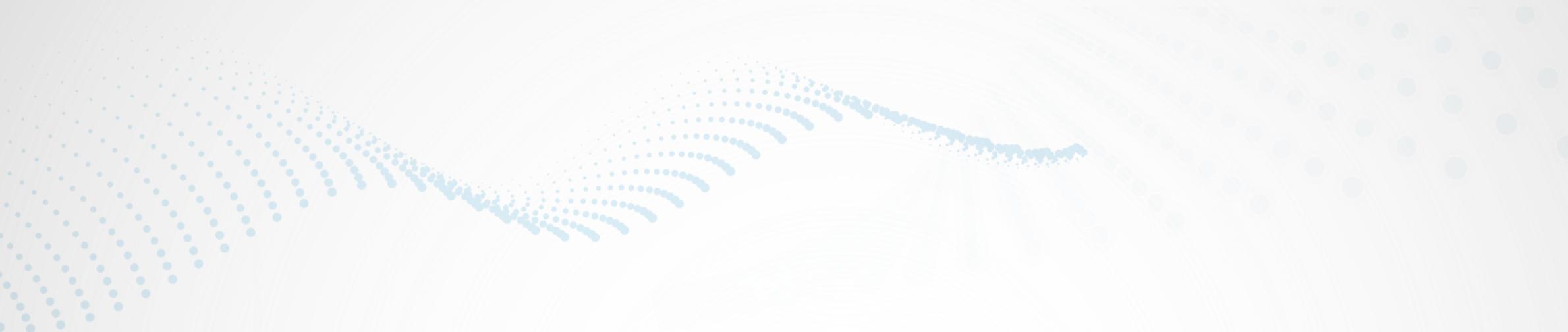
Rectifiers

Avalanche

Signal DFN

HEXFRED®

Connectivity



Build **Vishay**
Into your **Design**