



# New 1 A and 2 A Gen 7 1200 V FRED Pt® Hyperfast Rectifiers in eSMP® Series SMF (DO-219AB) Package Combine Low $Q_{rr}$ Down to 105 nC With $V_F$ of 1.45 V to Lower Switching Losses, Reduce Parasitic Capacitance and Recovery Time

## Product Benefits:

- Offered in compact 3.7 mm by 1.8 mm eSMP® series SMF (DO-219AB) package with a low 1.0 mm profile and minimum 2.2 mm creepage distance
- Available with forward currents of 1 A and 2 A
- AEC-Q101 qualified (VS-E7FX0112HM3 and VS-E7FX0212HM3)
- Reduce switching losses and increase efficiency:
  - Fast recovery times down to 45 ns
  - Low  $Q_{rr}$  down to 105 nC typical
  - Low forward voltage drop down to 1.45 V
  - Junction capacitance down to 3.0 pF
- Non-repetitive peak surge current up to 21 A
- RoHS-compliant and halogen-free
- Moisture Sensitivity Level of 1 in accordance with J-STD-020
- High temperature operation to +175 °C



## Market Applications:

- Clamp, snubber, and freewheeling diodes in flyback auxiliary power supplies and high frequency rectifiers for bootstrap driver functionality
- Desaturation protection for the latest fast switching IGBTs and high voltage Si / SiC MOSFETs
- Industrial drives and tools, on-board chargers and motors for electric vehicles (EV), energy generation and storage systems, and Ćuk converters and industrial LED SEPIC circuitry

## The News:

Vishay Intertechnology expands its Gen 7 platform of 1200 V FRED Pt® Hyperfast rectifiers with new Automotive Grade devices in the eSMP® series SMF (DO-219AB) package. Optimized for industrial and automotive applications, the 1 A and 2 A rectifiers not only offer the best trade-off between reverse recovery charge ( $Q_{rr}$ ) and forward voltage drop for devices in their class, they also provide the lowest junction capacitance and recovery time.

- The rectifiers feature a planar structure and platinum doped lifetime control that guarantee system reliability and robustness without compromising on performance, while their optimized stored charge and low recovery current minimize switching losses and reduce power dissipation



## The Key Specifications:

Part number	VS-E7FX0112-M3	VS-E7FX0112HM3	VS-E7FX0212-M3	VS-E7FX0212HM3
$I_{F(AV)}$	1 A	1 A	2 A	2 A
$V_R$	1200 V			
$V_F$ at $I_F$	1.45 V	1.45 V	1.60 V	1.60 V
$t_{rr}$	50 ns	50 ns	45 ns	45 ns
$Q_{rr}$	105 nC	105 nC	165 nC	165 nC
$C_T$	3.0 pF	3.0 pF	3.5 pF	3.5 pF
$I_{FSM}$	14 A	14 A	21 A	21 A
Package	SMF (DO-219AB)			
AEC-Q101	No	Yes	No	Yes

## Availability:

Samples and production quantities of the new Gen 7 rectifiers are available now, with a lead time of eight weeks.

To access the product datasheets on the Vishay Website, go to

<http://www.vishay.com/ppg?97163> (VS-E7FX0112-M3)

<http://www.vishay.com/ppg?97081> (VS-E7FX0112HM3)

<http://www.vishay.com/ppg?97162> (VS-E7FX0212-M3)

<http://www.vishay.com/ppg?97115> (VS-E7FX0212HM3)

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