# VS-E7MH0112-M3 and VS-E7MH0112HM3 Gen 7 1200 V, 1 A FRED Pt® Hyperfast Rectifiers in SMA (DO-214AC) Package Offer Low $Q_{rr}$ Down to 150 nC and $V_F$ of 1.10 V for Industrial and Automotive Applications, While Reducing Parasitic Capacitance and Improving $E_{rec}$

## Product Benefits:

- Offered in the SMA (DO-214AC) package
- AEC-Q101 qualified (VS-E7MH0112HM3)
- Fast recovery time of 75 ns
- Low $Q_{rr}$ down to 150 nC typical
- Low 1.10 V typical forward voltage drop
- Improved reverse recovery energy ($E_{rec}$)
- High temperature operation to +175 °C
- Moisture Sensitivity Level of 1 in accordance with J-STD-020
- RoHS-compliant and halogen-free

## 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 Si / SiC MOSFETs
- Industrial and telecom equipment, on-board chargers and motors for electric vehicles (EV), and CUK and SEPIC circuits for LED lighting

## The News:

Vishay Intertechnology introduces the first two devices in its new Gen 7 platform of 1200 V FRED Pt® Hyperfast rectifiers. Offered in the SMA (DO-214AC) package, the 1 A rectifiers offer the best trade-off between reverse recovery charge ($Q_{rr}$) and forward voltage drop for devices in their class. Optimized for industrial and automotive applications, the Vishay Semiconductors VS-E7MH0112-M3 and AEC-Q101 qualified VS-E7MH0112HM3 are designed to increase the efficiency of auxiliary functions and low power stages for AC/DC and DC/DC converters.

- Compared to the closest competing device on the market, the VS-E7MH0112-M3 and VS-E7MH0112HM3 offer a 10 % lower typical forward voltage drop, while achieving 50 % lower parasitic capacitance without compromising device reliability
- The rectifiers deliver a 10 % improvement in reverse recovery energy ($E_{rec}$) compared to previous-generation solutions, and offer a softer recovery tail for improved EMI reduction
- The devices 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:

- Blocking voltage: 1200 V
- Forward current: 1 A
- Reverse recovery time: 75 ns
- Typical $Q_{rr}$ at +25 °C: 150 nC
- Typical forward voltage drop at 1 A and +150 °C: 1.10 V
- Package: SMA (DO-214AC)
- Operating temperature range: -55 °C to +175 °C

**Availability:**
Samples and production quantities of the new Gen 7 devices are available now, with a lead time of 20 weeks.

To access the product datasheets on the Vishay Website, go to
http://www.vishay.com/ppg?96892 (VS-E7MH0112HM3)
http://www.vishay.com/ppg?96673 (VS-E7MH0112-M3)

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