



New FRED Pt[®] Gen 5 600 V Hyperfast Rectifiers in Isolated Package Deliver Best in Class Reverse Recovery Performance, Combine Low Q_{rr} Down to 75 nC With Improved E_{rec} for Increased Efficiency

Product Benefits:

- Offered in a fully isolated TO-220 FullPAK 2L package
- Available with forward currents of 12 A and 15 A
- Low Q_{rr} down to 75 nC
- Improved reverse recovery energy (E_{rec})
- Available in X-type and the new W-type speed classes
- High temperature operation to +175 °C
- 2500 V isolation voltage
- RoHS-compliant and halogen-free



Market Applications:

- Output and PFC rectifiers for AC/DC and DC/DC power stages in industrial applications — including air conditioners, off-board chargers, lighting, hybrid solar inverters, and UPS

The News:

Vishay Intertechnology introduces four new FRED Pt[®] Gen 5 600 V Hyperfast rectifiers in a fully isolated TO-220 FullPAK 2L package. Offering the best reverse recovery performance for devices in their class, the 12 A VS-E5TW1206FP-N3 and VS-E5TX1206FP-N3 and 15 A VS-E5TW1506FP-N3 and VS-E5TX1506FP-N3 are designed to increase the efficiency of medium frequency converters and of hard- and soft-switched or resonant designs.

- With the latest addition to its family of Gen 5 600 V FRED Pt rectifiers, Vishay is extending the benefits of high end Si technology to different circuit topologies, including classic and bridgeless power factor correction (PFC) front-end configurations
- Compared to previous-generation solutions, the VS-E5TW1206FP-N3, VS-E5TX1206FP-N3, VS-E5TW1506FP-N3, and VS-E5TX1506FP-N3 reduce reverse recovery charge (Q_{rr}) by 60 %, resulting in 90 % lower recovery losses
- The rectifiers deliver a 10 % improvement in E_{rec} compared to the closest competing device, a softer recovery tail for improved EMI reduction, and more stable operation over their entire operating temperature range for increased thermal performance
- The devices guarantee system reliability and robustness in industrial applications without compromising on performance
- For CCM and resonant applications with higher switching frequencies to 100 kHz and low di/dt to 350 kHz, W-type devices deliver lower Q_{rr} , while X-type rectifiers offer lower forward voltage



The Key Specifications:

Part number	V_R (V)	$I_{F(AV)}$ (A)	V_F typ. at +125 °C (V)	t_{rr} (ns)	Q_{rr} typ. (nC)	Package
VS-E5TW1206FP-N3	600	12	1.75	16	75	TO-220 FullPAK 2L
VS-E5TW1506FP-N3	600	15	1.5	17	97	TO-220 FullPAK 2L
VS-E5TX1206FP-N3	600	12	1.36	17	130	TO-220 FullPAK 2L
VS-E5TX1506FP-N3	600	15	1.3	19	180	TO-220 FullPAK 2L

Availability:

Samples of the new FRED Pt rectifiers are available now. Production quantities are available with lead times of 20 weeks.

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

<http://www.vishay.com/ppg?96976> (VS-E5TW1206FP-N3)

<http://www.vishay.com/ppg?96972> (VS-E5TW1506FP-N3)

<http://www.vishay.com/ppg?96974> (VS-E5TX1206FP-N3)

<http://www.vishay.com/ppg?96969> (VS-E5TX1506FP-N3)

Contact Information:

The Americas

Diodes-Americas@vishay.com

Europe

Diodes-Europe@vishay.com

Asia/Pacific

Diodes-Asia@vishay.com