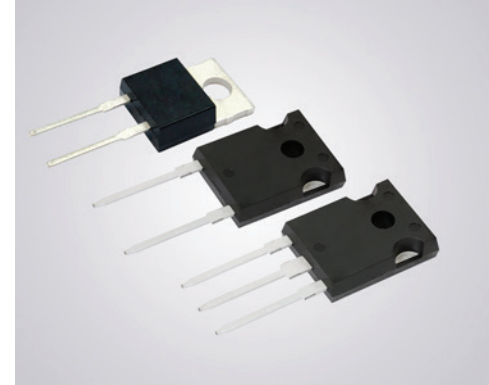




The DNA of tech.™

# 15 A to 75 A FRED Pt® Gen 5 600 V Hyperfast and Ultrafast Rectifiers

Offering the best reverse recovery performance for devices in their classes



## PRODUCT BENEFITS

- Forward currents of 15 A, 30 A, 60 A, and 75 A
- Offered in TO-220AC and TO-247AD packages
- Available in X-type hyperfast and H-type ultrafast speed classes
  - X-type devices offer the advantage of lower  $Q_{RR}$
  - H-type rectifiers feature lower forward voltage
- High temperature operation to +175 °C
- RoHS-compliant and halogen-free

## MARKET APPLICATIONS

- High speed LLC output rectification stages for EV / HEV battery charging stations and high frequency stages for UPS applications

## SAMPLES

- Samples and production quantities are available now with lead times of 12 weeks for larger orders

## RESOURCES

- Datasheets: please see next page for the list of FRED Pt® Gen 5 600 V hyperfast and ultrafast rectifiers available in the TO-220AC and TO-247AD packages
- For technical questions, contact:  
[DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com),  
[DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com),  
[DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com)
- Material categorization:  
for definitions of compliance, please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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## KEY SPECIFICATIONS

- 600 V FRED Pt® Gen 5 hyperfast and ultrafast rectifiers in the TO-220AC 2L, TO-247AD 2L, and TO-247AD 3L packages

| PART NUMBER                     | V <sub>R</sub><br>(V) | SPEED<br>CLASS | I <sub>F(AV)</sub><br>(A) | V <sub>F</sub> TYP.<br>(V) <sup>(1)</sup> | Q <sub>RR</sub> TYP.<br>(nC) <sup>(2)</sup> | t <sub>rr</sub> TYP.<br>(ns) <sup>(3)</sup> | PACKAGE     | AEC-Q101 Qualified |
|---------------------------------|-----------------------|----------------|---------------------------|-------------------------------------------|---------------------------------------------|---------------------------------------------|-------------|--------------------|
| <a href="#">VS-E5TH1506-M3</a>  | 600                   | H              | 15                        | 1.15                                      | 782                                         | 22                                          | TO-220AC 2L | No                 |
| <a href="#">VS-E5TX1506-M3</a>  | 600                   | X              | 15                        | 1.3                                       | 578                                         | 19                                          | TO-220AC 2L |                    |
| <a href="#">VS-E5TH3006-M3</a>  | 600                   | H              | 30                        | 1.15                                      | 1560                                        | 25                                          | TO-220AC 2L |                    |
| <a href="#">VS-E5TX3006-M3</a>  | 600                   | X              | 30                        | 1.3                                       | 952                                         | 22                                          | TO-220AC 2L |                    |
| <a href="#">VS-A5PH3006L-N3</a> | 600                   | X              | 30                        | 1.15                                      | 1560                                        | 25                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PH3006L-N3</a> | 600                   | H              | 30                        | 1.15                                      | 1560                                        | 25                                          | TO-247AD 2L |                    |
| <a href="#">VS-A5PX3006L-N3</a> | 600                   | X              | 30                        | 1.3                                       | 952                                         | 22                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PX3006L-N3</a> | 600                   | X              | 30                        | 1.3                                       | 952                                         | 22                                          | TO-247AD 2L |                    |
| <a href="#">VS-A5PH6006L-N3</a> | 600                   | H              | 60                        | 1.2                                       | 2385                                        | 29                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PH6006L-N3</a> | 600                   | H              | 60                        | 1.2                                       | 2385                                        | 29                                          | TO-247AD 2L |                    |
| <a href="#">VS-A5PX6006L-N3</a> | 600                   | X              | 60                        | 1.4                                       | 1568                                        | 26                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PX6006L-N3</a> | 600                   | X              | 60                        | 1.4                                       | 1568                                        | 26                                          | TO-247AD 2L |                    |
| <a href="#">VS-E5PH7506L-N3</a> | 600                   | H              | 75                        | 1.2                                       | 2515                                        | 32                                          | TO-247AD 2L |                    |
| <a href="#">VS-E5PX7506L-N3</a> | 600                   | X              | 75                        | 1.4                                       | 1731                                        | 29                                          | TO-247AD 2L |                    |
| <a href="#">VS-E5TH1506THN3</a> | 600                   | H              | 15                        | 1.15                                      | 782                                         | 22                                          | TO-220AC 2L | Yes                |
| <a href="#">VS-E5TX1506THN3</a> | 600                   | X              | 15                        | 1.3                                       | 578                                         | 19                                          | TO-220AC 2L |                    |
| <a href="#">VS-E5TH3006THN3</a> | 600                   | H              | 30                        | 1.15                                      | 1560                                        | 25                                          | TO-220AC 2L |                    |
| <a href="#">VS-E5TX3006THN3</a> | 600                   | X              | 30                        | 1.3                                       | 952                                         | 22                                          | TO-220AC 2L |                    |
| <a href="#">VS-A5PH3006LHN3</a> | 600                   | H              | 30                        | 1.15                                      | 1560                                        | 25                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PH3006LHN3</a> | 600                   | H              | 30                        | 1.15                                      | 1560                                        | 25                                          | TO-247AD 2L |                    |
| <a href="#">VS-A5PX3006LHN3</a> | 600                   | X              | 30                        | 1.3                                       | 952                                         | 22                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PX3006LHN3</a> | 600                   | X              | 30                        | 1.3                                       | 952                                         | 22                                          | TO-247AD 2L |                    |
| <a href="#">VS-A5PH6006LHN3</a> | 600                   | H              | 60                        | 1.2                                       | 2385                                        | 29                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PH6006LHN3</a> | 600                   | H              | 60                        | 1.2                                       | 2385                                        | 29                                          | TO-247AD 2L |                    |
| <a href="#">VS-A5PX6006LHN3</a> | 600                   | X              | 60                        | 1.4                                       | 1568                                        | 26                                          | TO-247AD 3L |                    |
| <a href="#">VS-E5PX6006LHN3</a> | 600                   | X              | 60                        | 1.4                                       | 1568                                        | 26                                          | TO-247AD 2L |                    |
| <a href="#">VS-E5PH7506LHN3</a> | 600                   | H              | 75                        | 1.2                                       | 3090                                        | 32                                          | TO-247AD 2L |                    |
| <a href="#">VS-E5PX7506LHN3</a> | 600                   | X              | 75                        | 1.4                                       | 2048                                        | 29                                          | TO-247AD 2L |                    |

### Notes

<sup>(1)</sup> I<sub>F</sub> = rated current, T<sub>J</sub> = 125 °C

<sup>(2)</sup> T<sub>J</sub> = 125 °C, I<sub>F</sub> = rated current A, V<sub>R</sub> = 400 V, di<sub>F</sub>/dt = 1000 A/μs

<sup>(3)</sup> T<sub>J</sub> = 25 °C, I<sub>F</sub> = 1 A di<sub>F</sub>/dt = 100 A/μs, V<sub>R</sub> = 30 V

Click on the part numbers to access the product's datasheet, 3D models, stock availability, and more.

