



# 600 V FRED Pt<sup>®</sup> Gen 5 Rectifiers in TO-220AC 2L and TO-247AD 2L Packages



**AEC-Q101  
Qualified**

Ultrafast diode with optimized  $E_{REC}$  and  $I_{RRM}$

Best in class among Si UF diodes in terms of  $E_{REC}$

Optimized for high speed resonant SMPS operation (LLC)

Available in X-type hyperfast and H-type ultrafast speed classes

AEC-Q101 extended up to 2000 h



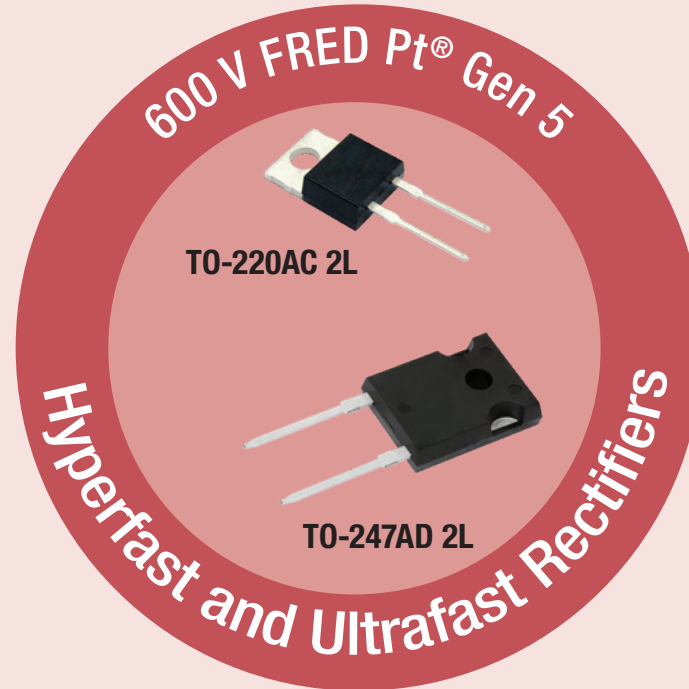
$T_j$  max. Up to 175 °C



Current ratings from 15 A to 75 A



Breakdown voltage of 600 V



## APPLICATIONS

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



UPS



EV / HEV BATTERY  
CHARGING STATIONS



AUTOMOTIVE

## Automotive Portfolio

Part Number	$V_R$ (V)	Speed Class	$I_{F(AV)}$ (A)	$V_F$ Typ. (V) <sup>(1)</sup>	$Q_{rr}$ Typ. (nC) <sup>(2)</sup>	$t_{rr}$ Typ. (ns) <sup>(3)</sup>	Package
<a href="#">VS-E5TH1506THN3</a>	600	H	15	1.15	782	22	TO-220AC 2L
<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-E5PH3006LHN3</a>	600	H	30	1.15	1560	25	TO-247AD 2L
<a href="#">VS-E5PX3006LHN3</a>	600	X	30	1.3	952	22	TO-247AD 2L
<a href="#">VS-E5PH6006LHN3</a>	600	H	60	1.2	2385	29	TO-247AD 2L
<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

## Non-Automotive Portfolio

Part Number	$V_R$ (V)	Speed Class	$I_{F(AV)}$ (A)	$V_F$ Typ. (V) <sup>(1)</sup>	$Q_{rr}$ Typ. (nC) <sup>(2)</sup>	$t_{rr}$ Typ. (ns) <sup>(3)</sup>	Package
<a href="#">VS-E5TH1506-M3</a>	600	H	15	1.15	782	22	TO-220AC 2L
<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-E5PH3006L-N3</a>	600	H	30	1.15	1560	25	TO-247AD 2L
<a href="#">VS-E5PX3006L-N3</a>	600	X	30	1.3	952	22	TO-247AD 2L
<a href="#">VS-E5PH6006L-N3</a>	600	H	60	1.2	2385	29	TO-247AD 2L
<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	3090	32	TO-247AD 2L
<a href="#">VS-E5PX7506L-N3</a>	600	X	75	1.4	2048	29	TO-247AD 2L

Notes: <sup>(1)</sup>  $I_F$  = rated current,  $T_j = 125$  °C; <sup>(2)</sup>  $T_j = 125$  °C,  $I_F$  = rated current A,  $V_R = 400$  V,  $di_F/dt = 1000$  A/μs; <sup>(3)</sup>  $T_j = 25$  °C,  $I_F = 1$  A  $di_F/dt = 100$  A/μs,  $V_R = 30$  V

For technical questions: [DiodesAmericas@vishay.com](mailto:DiodesAmericas@vishay.com), [DiodesEurope@vishay.com](mailto:DiodesEurope@vishay.com), or [DiodesAsia@vishay.com](mailto:DiodesAsia@vishay.com)