

FRED Pt[®] Gen 5 **Hyperfast Rectifiers,** **1200 V**

1200 V, 30 A, **X-Type**, Optimized for
Extreme Switching Speed and
Low Q_{rr} , **TO-247AD 2L Package**

VS-E5PX3012L-N3

1200 V, 30 A, **H-Type**, Optimized for
High Switching Speed, Low V_F
and Low Q_{rr} , **TO-247AD 2L**
Package

VS-E5PH3012L-N3

1200 V, 60 A, **X-Type**, Optimized for
Extreme Switching Speed and
Low Q_{rr} , **TO-247AD 2L Package**

VS-E5PX6012L-N3

1200 V, 30 A, **X-Type**, Optimized
for **Extreme Switching**
Speed and Low Q_{rr} ,
2L TO-220AC Package

VS-E5TX3012-N3

1200 V, 30 A, **H-Type**, Optimized
for **High Switching Speed**,
Low V_F and Low Q_{rr} ,
2L TO-220AC Package

VS-E5TH3012-N3

1200 V, 60 A, **H-Type**, Optimized
for **High Switching Speed**,
Low V_F and Low Q_{rr} ,
TO-247AD 2L Package

VS-E5PH6012L-N3



FRED Pt® GEN 5 HYPERFAST RECTIFIERS, 1200 V

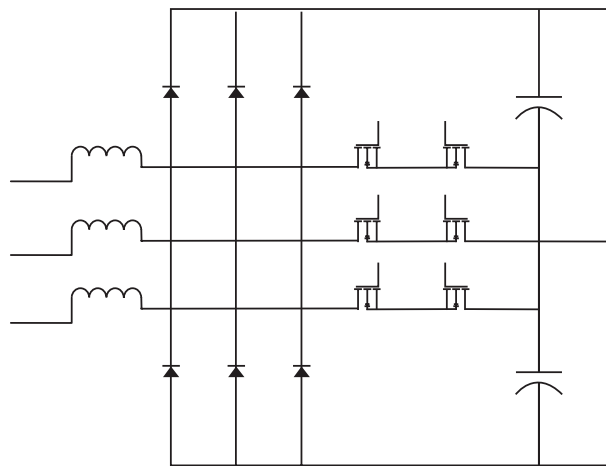
Focus Products

Single Diode, 1200 V, 30 A Current Rating in TO-247AD 2L and 2L TO-220AC Packages

Series	V_{CES} (V)	$I_{F(AV)}$ D = 0.5 (A)	At T_c (°C)	Speed Class	Typical V_F (V) $T_J = 125^\circ\text{C}$, $I_F = 30$ A	Typical Q_{rr} (nC) $T_J = 125^\circ\text{C}$, $I_F = 20$ A, $V_R = 400$ V, $di_F/dt = 600$ A/ μs	t_{rr} Class (ns) $T_J = 25^\circ\text{C}$, $I_F = 1$ A $di_F/dt = 100$ A/ μs , $V_R = 30$ V	Package
 VS-E5PX3012L-N3	1200	30	105	X	2.1	1550	26	TO-247AD 2L
New FRED Pt® Gen 5 hyperfast rectifier; 1200 V; 30 A; X-type; optimized for extreme switching speed and low Q_{rr} ; TO-247AD 2L package for best thermal performance								
 VS-E5TX3012-N3	1200	30	90	X	2.1	1550	26	2L TO-220AC
New FRED Pt® Gen 5 hyperfast rectifier; 1200 V; 30 A; X-type; optimized for extreme switching speed and low Q_{rr} ; TO-220 package for best value and small size								
 VS-E5PH3012L-N3	1200	30	115	H	1.7	2150	32	TO-247AD 2L
New FRED Pt® Gen 5 hyperfast rectifier; 1200 V; 30 A; H-type; optimized for high switching speed; low V_F and low Q_{rr} ; TO-247AD 2L package for best thermal performance								
 VS-E5TH3012-N3	1200	30	103	H	1.7	2150	32	2L TO-220AC
New FRED Pt® Gen 5 hyperfast rectifier; 1200 V; 30 A; H-type; optimized for high switching speed; low V_F and low Q_{rr} ; 2L TO-220AC package for best value and small size								

3-LEVEL T-TYPE PFC

Featuring a unique combination of low conduction and switching losses, these rectifiers are the right choice for high frequency converters, both hard switched and soft switched / resonant.





FRED Pt® GEN 5 HYPERFAST RECTIFIERS, 1200 V

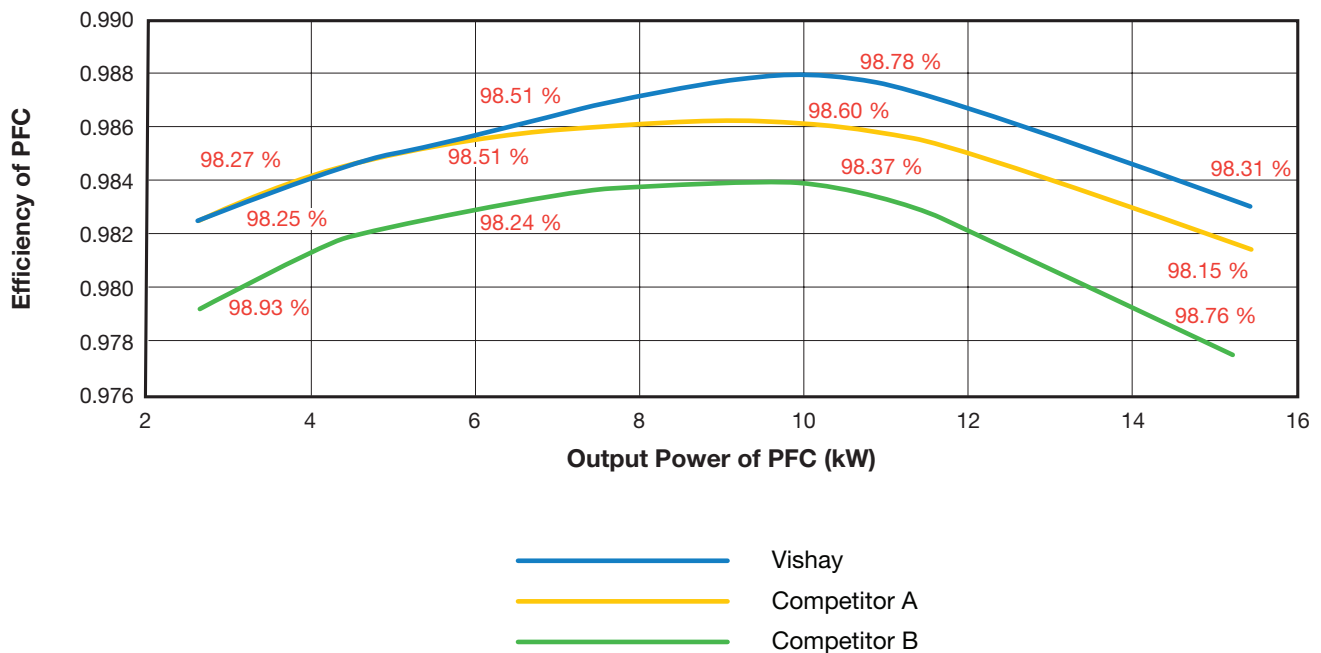
Focus Products

Single Diode, 1200 V, 60 A Current Rating in TO-247AD 2L Package

Series	V_{CES} (V)	$I_{F(AV)}$ D = 0.5 (A)	At T_c (°C)	Speed Class	Typical V_F (V) $T_J = 125^\circ\text{C}$, $I_F = 60$ A	Typical Q_{rr} (nC) $T_J = 125^\circ\text{C}$, $I_F = 40$ A, $V_R = 400$ V, $di_F/dt = 600$ A/ μs	t_{rr} Class (ns) $T_J = 25^\circ\text{C}$, $I_F = 1$ A $di_F/dt = 100$ A/ μs , $V_R = 30$ V	Package
 VS-E5PX6012L-N3	1200	60	105	X	2.1	2950	30	TO-247AD 2L
New FRED Pt® Gen 5 hyperfast rectifier; 1200 V; 60 A; X-type; optimized for extreme switching speed and low Q_{rr} ; TO-247AD 2L package for best thermal performance								
 VS-E5PH6012L-N3	1200	60	115	H	1.7	4080	38	TO-247AD 2L
New FRED Pt® Gen 5 hyperfast rectifier; 1200 V; 60 A; H-type; optimized for high switching speed; low V_F and low Q_{rr} ; TO-247AD 2L package for best thermal performance								

Specifically designed to improve the efficiency of PFC and output rectification stages of EV / HEV battery charging stations, the booster stage of solar inverters, and UPS applications, these devices are perfectly matched to operate with MOSFETs or high speed IGBTs.

EFFICIENCY OF PFC VS. OUTPUT POWER OF PFC AT 50 °C



FRED Pt® Gen 5 Hyperfast Rectifiers, 1200 V - Designed for High Speed Performance in EV Chargers and UPS



Advantages of FRED Pt® Gen 5 Hyperfast Rectifiers, 1200 V

- Best in class trade-off for low conduction losses and switching losses
- Designed to improve efficiency of hard and soft switching applications vs. competition
- Optimized for high speed operation
- 175 °C maximum operating junction temperature and polyimide passivation for enhanced reliability

For the Following Applications

- EV / HEV battery charging stations
- Booster stage of solar inverters and UPS

Useful Links

- 2L TO-220AC Package Drawing and Dimensions www.vishay.com/doc?96069
- TO-247AD 2L Package Drawing and Dimensions www.vishay.com/doc?95536
- FRED Pt® Ultrafast / Hyperfast Rectifiers Portfolio www.vishay.com/diodes/rectifiers/ultrafast-recovery/ultrafast-recovery-fred/

RoHS
COMPLIANT

HALOGEN
FREE



A **WORLD OF**
SOLUTIONS™