

1 A and 2 A Gen 7 1200 V FRED Pt® Hyperfast Rectifiers

Reducing Switching Losses and Increasing Efficiency in the eSMP® Series SlimSMA HV (DO-221AC)

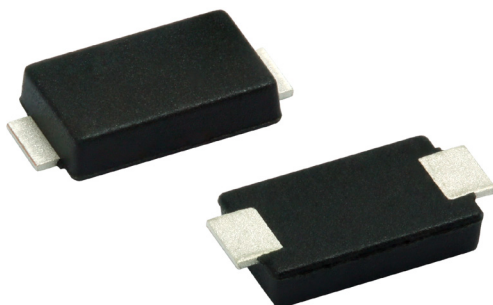


ADVANTAGE

Devices combine low Q_{rr} down to 105 nC with V_F down to 1.45 V, C_T down to 2.5 pF, and fast recovery times

KEY PRODUCT FEATURES

- ✓ Fast recovery times down to 45 ns
- ✓ High temperature operation to +175 °C
- ✓ New SlimSMA HV (DO-221AC) package with CTI ≥ 600 (Material Group I) for high voltage applications
- ✓ Compact, low profile package: 2.6 mm x 5.2 mm x 0.95 mm
- ✓ Moisture Sensitivity Level of 1 in accordance with J-STD-020



MARKETS AND APPLICATIONS



MOBILITY

- Automotive electrification (e-powertrain)
- Transportation
- Agricultural equipment



ENERGY SECTOR

- Generation and exploration
- Storage



INDUSTRIAL

- Drives and tools
- Infrastructure

RESOURCES





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ADDITIONAL BENEFITS

- The devices feature a planar structure and platinum doped lifetime control that guarantee system reliability and robustness without compromising on performance
- Combined with a minimum 3.2 mm creepage distance and molding compound with a comparative tracking index (CTI) ≥ 600 (Material Group I), the rectifiers reduce component counts and lower BOM costs based on IEC 60664-1 requirements for high voltage applications
- The devices will serve as clamp, snubber, and freewheeling diodes in flyback auxiliary power supplies and high frequency rectifiers for bootstrap driver functionality, while providing desaturation protection for the latest fast switching IGBTs and high voltage Si / SiC MOSFETs

Key Specifications

Part number	<u>VS-E7JX0112-M3</u>	<u>VS-E7JX0112HM3</u>	<u>VS-E7JX0212-M3</u>	<u>VS-E7FX0212HM3</u>
$I_{F(AV)}$	1 A	1 A	2 A	2 A
V_R	1200 V	1200 V	1200 V	1200 V
V_F at I_F	1.45 V	1.45 V	1.60 V	1.60 V
t_{rr}	50 ns	50 ns	45 ns	45 ns
Q_{rr}	105 nC	105 nC	165 nC	165 nC
C_T	2.5 pF	2.5 pF	3.0 pF	3.0 pF
I_{FSM}	14 A	14 A	21 A	21 A
Package	SlimSMA HV (DO-221AC)			
AEC-Q101	No	Yes	No	Yes