



DIODES

FRED Pt[®] Ultrafast Rectifiers in SMP Package

1 A and 2 A FRED Pt[®] Ultrafast Rectifiers in SMP Package Increase Power Density, Improve Efficiency



KEY BENEFITS

- Increase power density by providing the high current ratings typically reserved for the SMA (DO-214AC) package in the smaller SMP (DO-220AA) package, which needs 24 % less PCB space
- Low forward voltage drop reduces power losses and improves efficiency
- Ideal for automated placement, allows for automated optical inspection (AOI) in automotive systems

APPLICATIONS

- High frequency inverters, DC/DC converters, freewheeling diodes, and power factor correction in automotive engine control units (ECU), antilock braking systems (ABS), and HID and LED lighting, and telecom and industrial power supplies

RESOURCES

- Datasheets: please see table on next page for the list of products
- For technical questions, contact DiodesAmericas@vishay.com, DiodesEurope@vishay.com, DiodesAsia@vishay.com
- Material categorization: for definitions of compliance, please see www.vishay.com/doc?99912





DIODES

FRED Pt® Ultrafast Rectifiers in SMP Package

Vishay expands its offering of FRED Pt® ultrafast recovery rectifiers with eight new 100 V and 200 V devices in the eSMP® series SMP (DO-220AA) package, including the industry's first to offer current ratings to 2 A.

- Measures 3.85 mm by 2.03 mm with a low 1 mm profile
- Space-saving, higher power density alternatives to devices in the SMA (DO-214AC) package
- For excellent thermal performance, devices feature an asymmetric design with a large metal pad for heat dissipation
- Ultrafast recovery times down to 14 ns, reduced Q_{rr} to 10 nC, and soft recovery features over the entire working temperature range of -55 °C to +175 °C
- MSL moisture sensitivity level of 1, per J-STD-020, LF maximum peak of +260 °C
- RoHS-compliant and halogen-free

KEY SPECIFICATIONS										
PACKAGE	DEVICE	$I_{F(AV)}$ (A)	V_{BR} (V)	TYPICAL V_F at I_F at T_J		TYPICAL t_{rr} at (see set-up)		TYPICAL Q_{rr} at (see set-up)		AEC-Q101 QUALIFIED
				V_F (V)	I_F (A)	(ns)	at $I_F, di_F/dt, V_R$	(nC)		
SMP	VS-1ENH01HM3	1	100	0.69	1	14	1 A, 200 A/μs, 100 V	10	Yes	
	VS-1ENH02HM3	1	200	0.69	1	14	1 A, 200 A/μs, 100 V	10	Yes	
	VS-2ENH01HM3	2	100	0.79	2	16	2 A, 200 A/μs, 100 V	15	Yes	
	VS-2ENH02HM3	2	200	0.79	2	16	2 A, 200 A/μs, 100 V	15	Yes	
	VS-1ENH01-M3	1	100	0.69	1	14	1 A, 200 A/μs, 100 V	10	No	
	VS-1ENH02-M3	1	200	0.69	1	14	1 A, 200 A/μs, 100 V	10	No	
	VS-2ENH01-M3	2	100	0.79	2	16	2 A, 200 A/μs, 100 V	15	No	
	VS-2ENH02-M3	2	200	0.79	2	16	2 A, 200 A/μs, 100 V	15	No	