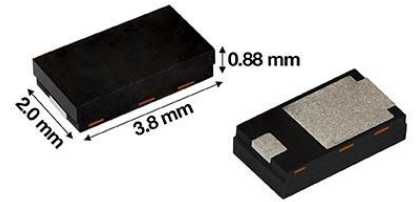


200 V FRED Pt[®] Ultrafast Rectifiers Provide Improved Thermal Performance and Efficiency, Deliver High Current Ratings to 5 A in Power DFN Series DFN3820A Package With Low 0.88 mm Profile and Wettable Flanks

Product Benefits:

- Offered in DFN3820A package with wettable flanks
 - Compact 3.8 mm by 2.0 mm footprint and an extremely low typical height of 0.88 mm
 - Wettable flanks allow for automatic optical inspection (AOI), eliminating the need for an X-ray inspection
- AEC-Q101 qualified versions available
- Reverse leakage current down to 1 μ A
- Wide operating temperature range from -55 °C to +175 °C
- Low forward voltage drop down to 0.71 V reduces power losses to improve efficiency
- Ideal for automated placement
- MSL moisture sensitivity level of 1, per J-STD-020, LF maximum peak of 260 °C
- Matte tin-plated leads meet the JESD 201 class 2 whisker test
- RoHS-compliant and halogen-free



Market Applications:

- High frequency inverters, DC/DC converters, freewheeling diodes, clamps and snubbers, polarity protection, and LED backlighting
- Automotive applications including dual-voltage injector drivers, piezo drivers, and engine control units (ECU); advanced driver assistance (ADAS), lidar, camera, and antilock braking systems (ABS); and 48 V boardnets, chargers, and battery management systems (BMS) in electric (EV) and hybrid electric vehicles (HEC)
- Industrial automation equipment and tools, consumer electronics and appliances, and telecom and medical equipment

The News:

Vishay Intertechnology introduces four new series of 200 V FRED Pt[®] ultrafast rectifiers in the low profile DFN3820A package with wettable flanks. Providing space-saving, high efficiency solutions for commercial, industrial, and automotive applications, the 1 A VS-1EAH02xM3, 2 A VS-2EAH02xM3, 3 A VS-3EAH02xM3, and 5 A VS-5EAH02xM3 are each available in Vishay Automotive Grade, AEC-Q101 qualified versions.

- The first package in Vishay's new Power DFN family, the DFN3820A's compact footprint and low profile allow the VS-1EAH02xM3, VS-2EAH02xM3, VS-3EAH02xM3, and VS-5EAH02xM3 to make more efficient use of PCB space
- The devices' optimized copper mass design and advanced die placement technology allow for superior thermal performance that enables operation at higher current ratings



- Compared to devices in the SMP (DO-220AA) package with the same footprint, the VS-1EAH02xM3, VS-2EAH02xM3, VS-3EAH02xM3, and VS-5EAH02xM3 offer a 12 % lower profile and more than double the current rating
- The rectifiers offer equivalent or higher current ratings to larger devices in the conventional SMB (DO-214AA) and SMC (DO-214AB) packages, as well as the eSMP® series SlimSMA (DO-221AC), SlimSMAW (DO-221AD), and SMPC (TO-2778A)

The Key Specifications:

Part #	I _{F(AV)} (A)	V _R (V)	I _{FSM} (A)	V _F at I _F and T _J			T _J max. (°C)	Package	Vishay Automotive Grade
				V _F (V)	I _F (A)	T _J (°C)			
VS-1EAH02-M3	1	200	32	0.72	1	150	175	DFN3820A	No
VS-1EAH02HM3	1	200	32	0.72	1	150	175	DFN3820A	Yes
VS-2EAH02-M3	2	200	54	0.71	2	150	175	DFN3820A	No
VS-2EAH02HM3	2	200	54	0.71	2	150	175	DFN3820A	Yes
VS-3EAH02-M3	3	200	61	0.73	3	150	175	DFN3820A	No
VS-3EAH02HM3	3	200	61	0.73	3	150	175	DFN3820A	Yes
VS-5EAH02-M3	5	200	102	0.72	5	150	175	DFN3820A	No
VS-5EAH02HM3	5	200	102	0.72	5	150	175	DFN3820A	Yes

Availability:

Samples and production quantities of the new FRED Pt ultrafast rectifiers in the DFN3820A package are available now, with lead times of 12 weeks.

To access the product datasheets on the Vishay Website, go to

- <http://www.vishay.com/ppg?97082> (VS-1EAH02-M3)
- <http://www.vishay.com/ppg?97067> (VS-1EAH02HM3)
- <http://www.vishay.com/ppg?97083> (VS-2EAH02-M3)
- <http://www.vishay.com/ppg?97069> (VS-2EAH02HM3)
- <http://www.vishay.com/ppg?97084> (VS-3EAH02-M3)
- <http://www.vishay.com/ppg?97070> (VS-3EAH02HM3)
- <http://www.vishay.com/ppg?97085> (VS-5EAH02-M3)
- <http://www.vishay.com/ppg?97071> (VS-5EAH02HM3)

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