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New 10 A to 30 A FRED Pt[®] Rectifiers in SMPD Package Offer Increased Power Density and System Efficiency for Automotive and Telecom Applications

Product Benefits:

- Low-profile SMPD (TO-263AC) package
 - Footprint-compatible with the TO-263 (D2PAK) package
- Low leakage currents
- Low forward voltage drop down to 0.75 V typical
- Fast reverse recovery time down to 25 ns
- Available in AEC-Q101-qualified and standard versions
- Offered in single- and dual-die configurations
- Specified for output and snubber operation
- High operating temperature to +175 °C
- MSL moisture level of 1 per J-STD-020, LF maximum peak of +260 °C
- Meet the JESD 201 class 2 whisker test
- RoHS-compliant and halogen-free
- Ideal for automated placement
- Allow for automated optical inspection (AOI) in automotive systems



Market Applications:

- DC/DC converters, power factor correction (PFC), low-voltage inverters, and chopper motor drives in automotive engine control units (ECUs), antilock braking systems (ABS), LED lighting, and HID lighting, in addition to telecom DC/DC bricks

The News:

Vishay Intertechnology introduces 16 new 10 A to 30 A FRED Pt Hyperfast and Ultrafast recovery rectifiers in the low-profile SMPD (TO-263AC) package. Combining extremely fast and soft recovery characteristics with low leakage current and low forward voltage drop, the Vishay Semiconductors rectifiers reduce switching losses and over-dissipation in automotive and telecom applications.

- Provide a high-density alternative to the TO-263 (D2PAK) package
- Feature a planar structure and platinum-doped lifetime control to guarantee high overall performance, ruggedness, and reliability characteristics
- Offer an operating junction temperature from -55 °C to +175 °C for a more robust design



The Key Specifications:

Part #	Type	Diode variation	I _{F(AV)} (A)	V _R (V)	V _F typ @ rated I (V)	trr typ. (ns)	AEC-Q101
VS-10CDH06HM3	Hyperfast	Dual	2 x 5	600	1	35	Yes
VS-10CDH06-M3	Hyperfast	Dual	2 x 5	600	1	35	No
VS-12CDU06HM3	Ultrafast	Dual	2 x 6	600	0.89	45	Yes
VS-12CDU06-M3	Ultrafast	Dual	2 x 6	600	0.89	45	No
VS-16CDH02HM3	Hyperfast	Dual	2 x 8	200	0.77	27	Yes
VS-16CDH02-M3	Hyperfast	Dual	2 x 8	200	0.77	27	No
VS-16CDU06HM3	Ultrafast	Dual	2 x 8	600	0.94	45	Yes
VS-16CDU06-M3	Ultrafast	Dual	2 x 8	600	0.94	45	No
VS-16EDH02HM3	Hyperfast	Single	16	200	0.75	32	Yes
VS-16EDH02-M3	Hyperfast	Single	16	200	0.75	32	No
VS-16EDU06HM3	Ultrafast	Single	16	600	0.91	55	Yes
VS-16EDU06-M3	Ultrafast	Single	16	600	0.91	55	No
VS-20CDH02HM3	Hyperfast	Dual	2 x 10	200	0.77	25	Yes
VS-20CDH02-M3	Hyperfast	Dual	2 x 10	200	0.77	25	No
VS-30CDU06HM3	Ultrafast	Dual	2 x 15	600	0.9	55	Yes
VS-30CDU06-M3	Ultrafast	Dual	2 x 15	600	0.9	55	No

The Perspective:

Footprint-compatible with the TO-263 (D2PAK) package, the Vishay Semiconductors FRED Pt Hyperfast and Ultrafast recovery rectifiers in the SMPD (TO-263AC) package offer a lower package height of < 1.7 mm for increased power density and efficiency and to enable slimmer end products.

Availability: Samples and production quantities of the new FRED Pt rectifiers are available now, with lead times of nine weeks for larger orders.

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

- <http://www.vishay.com/ppg?95809> (VS-10CDH06HM3)
- <http://www.vishay.com/ppg?95800> (VS-10CDH06-M3)
- <http://www.vishay.com/ppg?95811> (VS-12CDU06HM3)
- <http://www.vishay.com/ppg?95810> (VS-12CDU06-M3)
- <http://www.vishay.com/ppg?95813> (VS-16CDH02HM3)
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- <http://www.vishay.com/ppg?95815> (VS-16CDU06HM3)
- <http://www.vishay.com/ppg?95814> (VS-16CDU06-M3)
- <http://www.vishay.com/ppg?95817> (VS-16EDH02HM3)
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- <http://www.vishay.com/ppg?95819> (VS-16EDU06HM3)
- <http://www.vishay.com/ppg?95818> (VS-16EDU06-M3)
- <http://www.vishay.com/ppg?95821> (VS-20CDH02HM3)
- <http://www.vishay.com/ppg?95820> (VS-20CDH02-M3)
- <http://www.vishay.com/ppg?95823> (VS-30CDU06HM3)
- <http://www.vishay.com/ppg?95822> (VS-30CDU06-M3)



New Product Info



Product Group: Vishay Semiconductors, Rectifiers / **April 2015**

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