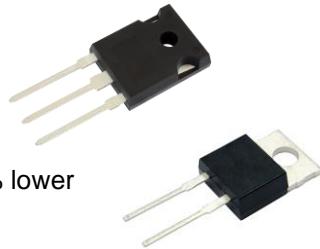


Vishay Expands Portfolio of FRED Pt® Gen 5 1200 V Hyperfast and Ultrafast Rectifiers

Vishay announces the availability of 12 new FRED Pt® Gen 5 1200 V Hyperfast and Ultrafast rectifiers, which offer the best conduction and switching loss trade-off for devices in their class. Ranging from 8 A up to 60 A, in single- and dual-diode configurations, the Vishay rectifiers are designed to increase the efficiency of high frequency converters and hard- and soft-switched or resonant designs.

- Matched to operate with MOSFETs or high speed IGBTs
- Offer up to 10 % lower losses than competing silicon solutions
 - Cut the efficiency gap with SiC diodes in half
 - Provide a cost-effective alternative for applications with frequencies in the range of 50 kHz
- Offer the same forward voltage as competing solutions, while delivering up to 40 % lower switching losses and Q_{RR}



The Key Specifications:

| Part Number | V_R (V) | $I_{F(AV)}$ (A) | V_F Typ. (V) ¹ | Q_{RR} Typ. (nC) ² | Speed Class | t_{rr} Typ. (ns) ³ | Package |
|---------------------------------|-----------|-----------------|-----------------------------|---------------------------------|-------------|---------------------------------|-------------|
| VS-E5TH0812-M3 | 1200 | 8 | 1.8 | 1350 | H | 33 | 2L TO-220AC |
| VS-E5TX0812-M3 | 1200 | 8 | 2.1 | 960 | X | 27 | 2L TO-220AC |
| VS-E5TH1512-M3 | 1200 | 15 | 1.7 | 1985 | H | 37 | 2L TO-220AC |
| VS-E5TX1512-M3 | 1200 | 15 | 2.1 | 1600 | X | 29 | 2L TO-220AC |
| VS-E5TH3012-M3 | 1200 | 30 | 1.7 | 3215 | H | 32 | 2L TO-220AC |
| VS-E5TX3012-M3 | 1200 | 30 | 2.1 | 2400 | X | 26 | 2L TO-220AC |
| VS-C5TH3012-M3 | 1200 | 30 (2 x 15) | 1.7 | 1985 | H | 37 | 3L TO-220AB |
| VS-C5TX3012-M3 | 1200 | 30 (2 x 15) | 2.1 | 1600 | X | 29 | 3L TO-220AB |
| VS-C5PH3012L-N3 | 1200 | 30 (2 x 15) | 1.7 | 1200 | H | 37 | TO-247AD 3L |
| VS-C5PX3012L-N3 | 1200 | 30 (2 x 15) | 2.1 | 1600 | X | 29 | TO-247AD 3L |
| VS-C5PH6012L-N3 | 1200 | 60 (2 x 30) | 1.7 | 3215 | H | 32 | TO-247AD 3L |
| VS-C5PX6012L-N3 | 1200 | 60 (2 x 30) | 2.1 | 2400 | X | 26 | TO-247AD 3L |

Notes

¹ I_F = rated current, $T_J = 125^\circ\text{C}$

² $T_J = 125^\circ\text{C}$, I_F = rated current A, $V_R = 1000$ V, $dI_F/dt = 800$ A/ μs

³ $T_J = 25^\circ\text{C}$ $I_F = 1$ A $dI_F/dt = 100$ A/ μs , $V_R = 30$ V



Product Benefits:

- Forward currents of 8 A to 60 A
- Offered in the following packages: 2L TO-220AC / TO-247AD 2L (single diode) and 3L TO-220AB / TO-247AD 3L (dual diode)
- Available in X-type Hyperfast and H-type Ultrafast speed classes
 - X-type rectifiers offer the advantage of lower Q_{RR}
 - H-type devices feature lower forward voltage
- High temperature operation to +175 °C

Market Applications:

- PFC and output rectification stages for EV / HEV battery charging stations, booster stages for solar inverters, and UPS and welding applications

Useful Links

- The full portfolio of Fred Pt Gen5 1200 V diodes can be seen in the following product sheet:
www.vishay.com/doc?48518

FOR FURTHER INFORMATION, PLEASE CONTACT YOUR REGIONAL MARKETING OFFICE AS LISTED BELOW:

Contact Information:

The Americas

Diodes-Americas@vishay.com

Europe

Diodes-Europe@vishay.com

Asia

Diodes-Asia@vishay.com