New Automotive-Grade FRED Pt® and HEXFRED® Hyperfast and Ultrafast Rectifiers and Soft Recovery Diodes

Vishay Intertechnology Releases 19 Automotive-Grade FRED Pt and HEXFRED Hyperfast and Ultrafast Rectifiers and Soft Recovery Diodes in Six Package Options

Vishay Intertechnology, Inc. (NYSE: VSH) introduces 19 new automotive-grade FRED Pt and HEXFRED Hyperfast and Ultrafast rectifiers and soft recovery diodes in DPAK, TO-220, D²PAK, TO-262, TO-247, and modified TO-247 packages.

Product Benefits:

- Wide variety of package options:
  - DPAK, TO-220, D²PAK, TO-262, TO-247, and modified TO-247
- Forward currents from 4 A to 60 A
- Reverse currents from 200 V to 1200 V
- Fast reverse recovery times down to 14 ns
- Low forward voltage drop
- Low leakage current
- AEC-Q101 qualified
- High operating junction temperature to + 175 °C (FRED Pt rectifiers)
- Devices in the DPAK, D²PAK, and TO-262 packages offer an MSL moisture level of 1 per J-STD-020, LF maximum peak of + 260 °C
- RoHS compliant and halogen free
- TO-220 and TO-247 packages are totally lead (Pb)-free
- Meet the JESD 201 Class 1A / 2 whisker test
### The Key Specifications:

<table>
<thead>
<tr>
<th>Part #</th>
<th>Package</th>
<th>Product family</th>
<th>Device type</th>
<th>$I_F$ (A)</th>
<th>$V_{RRM}$ (V)</th>
<th>$V_F$ (V)</th>
<th>$t_r$ (ns)</th>
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</thead>
<tbody>
<tr>
<td>VS-6CWH02FNxHM3</td>
<td>DPAK</td>
<td>FRED Pt</td>
<td>Ultrafast rectifier</td>
<td>2 x 3</td>
<td>200</td>
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<td>600</td>
<td>2.1</td>
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<td>HEXFRED</td>
<td>Ultrafast diode</td>
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<td>600</td>
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</table>

### Market Applications:
- AC/DC, DC/DC, and auxiliary and traction inverters in full hybrid and mild hybrid vehicle systems
- HID lighting and ABS systems
- Fast battery charging systems and main inverter applications up to 20 kW

### The Perspective:
Combining extremely fast and soft recovery characteristics with low forward voltage drop and low leakage current, Vishay’s new automotive-grade FRED Pt and HEXFRED Hyperfast and Ultrafast rectifiers and soft recovery diodes reduce switching losses and EMI/RFI in high-frequency full hybrid and mild hybrid vehicle systems and HID lighting.

Ideal for HID lighting and ABS systems, devices in the DPAK offer reverse voltages of 200 V and 600 V, and include 6 A and 8 A FRED pt rectifiers and a 4 A HEXFRED diode. For fast battery charging systems and main inverter applications up to 20 kW, components in the TO-220, D^3PAK, TO-262, TO-247, and modified TO-247 packages offer reverse voltages of 600 V and 1200 V, and include 15 A to 60 A FRED Pt devices and HEXFRED diodes.

The FRED Pt rectifiers feature a planar structure and platinum doped lifetime control to guarantee high overall performance, ruggedness, and reliability characteristics. The components offer an operating junction temperature to +175 °C for a more robust design. Employing the latest in epitaxial construction and advanced processing techniques, Vishay’s HEXFRED recovery diodes help designers to significantly reduce snubbing, component count, and heatsink sizes.

**Availability:** Samples and production quantities of the new FRED Pt and HEXFRED rectifiers and diodes are available now, with lead times of 8 to 12 weeks for larger orders.

To access the product datasheets on the Vishay Web site, go to:
- http://www.vishay.com/doc?94743 (VS-6CWH02FNxHM3)
- http://www.vishay.com/doc?94741 (VS-8CWH02FNxHM3)
- http://www.vishay.com/doc?94740 (VS-6EWH06FNxHM3)
- http://www.vishay.com/doc?94745 (VS-6EWH06FNxHM3)
- http://www.vishay.com/doc?94739 (VS-8EWH06FNxHM3)
- http://www.vishay.com/doc?94756 (VS-HFA04SD60SxHM3)
- http://www.vishay.com/doc?94511 (VS-HFA30TA60CHN3)
- http://www.vishay.com/doc?93806 (VS-60APU06HN3)
- http://www.vishay.com/doc?93806 (VS-60EPU06HN3)

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