**FDMF5075**

20A Smart Power Stage (SPS) Modules with Integrated Current and Temperature Monitors

**Product Overview**

For complete documentation, see the data sheet.

The FDMF5075 is ON Semiconductor’s next generation of Smart Power Stage (SPS) solutions with fully optimized, ultra-compact, integrated MOSFETs plus driver for high-current, high frequency, and synchronous buck DC-DC converters.

With an integrated approach, the SPS switching power stage is optimized for driver and MOSFET dynamic performance, minimized system inductance, and power MOSFET RDS(ON).

The integration of Power MOSFETs with a driver IC also enables advanced high accuracy module thermal and current monitoring. The FDMF5075 provides an output signal (IMON), which reports the real-time module current. IMON is a very accurate, 5 A/A signal representing the real time Power MOSFET drain currents. The IMON signal can be used to replace inductor DCR current sense or resistor sense methods.

The FDMF5075 also includes very accurate module thermal monitor (TMON). TMON is a voltage sourced PTAT signal that is calibrated to provide a 0.8 V output at 25°C with an 8 mV / °C slope.

**Features**

- Up to 20A Instantaneous Peak Current Handling Capability
- High-Performance, Universal Footprint, Copper-Clip 4 mm x 5 mm PQFN Package
- ON Semiconductor's PowerTrench® MOSFETs for Clean Voltage Waveforms and Reduced Ringing
- 30V / 25V Breakdown Voltage MOSFETs for Higher Long Term Reliability
- Optimized for Switching Frequencies up to 1 MHz
- Integrated Current Monitor Compliant with Intel's VR13 Accuracy Requirements
- Integrated Temperature Monitor (TMON)
- Catastrophic Fault Detection
- Thermal Flag (OTP) for Over-Temperature Condition
- Over-Current Protection FAULT (OCP)

For more features, see the data sheet

**Applications**

- Multiphase and Single Phase DC-DC Voltage Regulators in Servers
- Storage Systems
- Computing
- Graphics Cards
- Enterprise Switches

**Part Electrical Specifications**

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<th>Compliance</th>
<th>Status</th>
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<th>$V_{IN}$ (V) Typ</th>
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<th>$I_{O}$ (A) Max</th>
<th>$f_{MAX}$ (MHz) Max</th>
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