

FDMF3180

Smart Power Stage (SPS) Modules with Integrated Current and Temperature Monitors - NOT RECOMMENDED FOR NEW DESIGNS

Product Overview

For complete documentation, see the data sheet.

This device is not recommended for new designs. Please consider using [the pin-to-pin replacement FDMF5062](#) instead.

The FDMF3180 is ON Semiconductor's next generation Smart Power Stage (SPS) solutions with fully optimized, ultra-compact, integrated MOSFETs with advanced driver IC current and temperature sensors, 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, system parasitic reduction, and power MOSFET RDS(ON).

The integration of Power MOSFETs with a driver IC also enables high accuracy module-level current and thermal monitoring. The FDMF3180 provides an output signal (IMON), which reports the real-time module current. The IMON signal can be used to replace inductor DCR current sense or resistor sense methods. There is also very accurate thermal monitoring (TMON) that provides a 0.8V output at 25°C with an 8 mV / °C slope.

Features

- Up to 70A Instantaneous Peak Current Handling Capability
- High-Performance, Universal Footprint, Copper-Clip 5 mm x 6 mm PQFN Package
- ON Semiconductor's PowerTrench® MOSFETs for Clean Voltage Waveforms and Reduced Ringing
- 30 V / 25 V DC Breakdown Voltage MOSFETs for Higher Long-Term Reliability
- Optimized FET Pair for Highest Efficiency at 10% ~ 15% Duty Cycle
- Optimized for Switching Frequencies up to 1 MHz
- Integrated Current Monitoring (IMON)
- Integrated Temperature Monitoring (TMON)
- Catastrophic Fault Detection Features
- Thermal Flag (OTP) for Over-Temperature Condition

For more features, see the data sheet

Applications

- CPU and Memory Voltage Regulators Compliant with Intel's VR13 Purley Systems
- High-Current Multiphase Voltage Regulators
- Graphics Processing Unit (GPU) Cards
- Server, Storage, Telecom
- DC/DC Power Module