FDMF5076

35A Smart Power Stage (SPS) Modules with Integrated Current and Temperature Monitors

Product Overview

For complete documentation, see the data sheet.

The FDMF5076 is onsemi's next generation of Smart Power Stage (SPS) solution with fully optimized, ultracompact, integrated MOSFETs plus driver for highcurrent, high frequency, and synchronous buck DCDC 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 FDMF5076 provides an output signal (IMON), which reports the realtime 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 FDMF5076 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 35A Instantaneous Peak Current Handling Capability
- High-Performance, Universal Footprint, Copper-Clip 4 mm x 5 mm PQFN Package
- onsemi's PowerTrench® MOSFETs for Clean Voltage Waveforms and Reduced Ringing
- 30V / 25V 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 Monitor Compliant with Intel's VR13 Accuracy Requirements
- Integrated Temperature Monitor (TMON)
- Catastrophic Fault Detection
- Thermal Flag (OTP) for Over-Temperature Condition

For more features, see the data sheet

Applications

- CPU and Memory Voltage Regulators in VR13 Purley Systems
- Communications Infrastructure Systems

End Products

- Multiphase and Single Phase DC−DC Voltage Regulators
- Enterprise Switches
- Graphics Cards

Part Electrical Specifications

Product	Status	Compilance	V_{CIN} (V) Typ	V_{IN} (V) Typ	PWM Level	I_O (A) Max	f_{max} (MHz) Max	Package Type	Case Outline	MSL Type	MSL Temp (°C)	Container Type	Container Qty.
FDMF5076	Active, Not Rec		5	12	3.3V, 5V	35	1	PQFN-24	483BV.PDF	1	260	REEL	3000