

## FDMF5175

# 30A Smart Power Stage (SPS) Modules with Integrated Current and Temperature Monitors

## Product Overview

For complete documentation, see the data sheet.

The FDMF5175 is ON Semiconductor's next generation of Smart Power Stage (SPS) solution 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 FDMF5175 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 accurate thermal monitoring (TMON) that provides a 0.8 V output at 25°C with an 8 mV / °C slope.

### Features

- Up to 30A 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 FET Pair for Highest Efficiency at 10% ~ 15% Duty Cycle
  - Optimized for Switching Frequencies up to 1 MHz
  - Integrated Current Monitor (IMON)
  - Integrated Temperature Monitor (TMON)
  - Catastrophic Fault Detection
  - Thermal Flag (OTP) for Over-Temperature Condition
- For more features, see the data sheet

### Benefits

- High Current Capability

### Applications

- Multiphase and Single Phase DC-DC Voltage Regulators
- Server, Storage Systems, Computing
- Graphics Cards, Enterprise Switches
- Communications Infrastructure Systems

### End Products

- Server, Storage Systems, Computing

## Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	V <sub>CIN</sub> (V) Typ	V <sub>IN</sub> (V) Typ	PWM Level	I <sub>O</sub> (A) Max	f <sub>max</sub> (MHz)	Package Type
FDMF5175	1.4333		Active	5	12	3.3V, 5V	30	1	PQFN-24