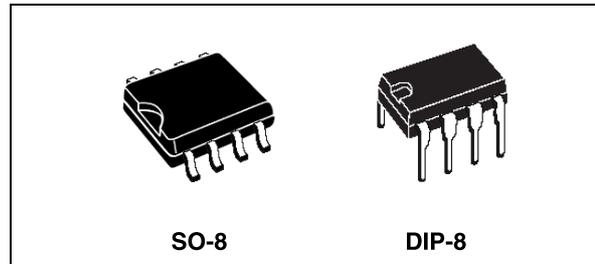


Low power offline switched-mode power supply primary switcher

Features

- Fixed 60 kHz switching frequency
- 9 V to 38 V wide range V_{DD} voltage
- Current mode control
- Auxiliary undervoltage lockout with hysteresis
- High voltage start-up current source
- Overtemperature, overcurrent and overvoltage protection with auto-restart
- Typical power capability
 - European (195 - 265 Vac) 8 W for SO-8, 13 W for DIP-8
 - European (85 - 265 Vac) 5 W for SO-8, 8 W for DIP-8



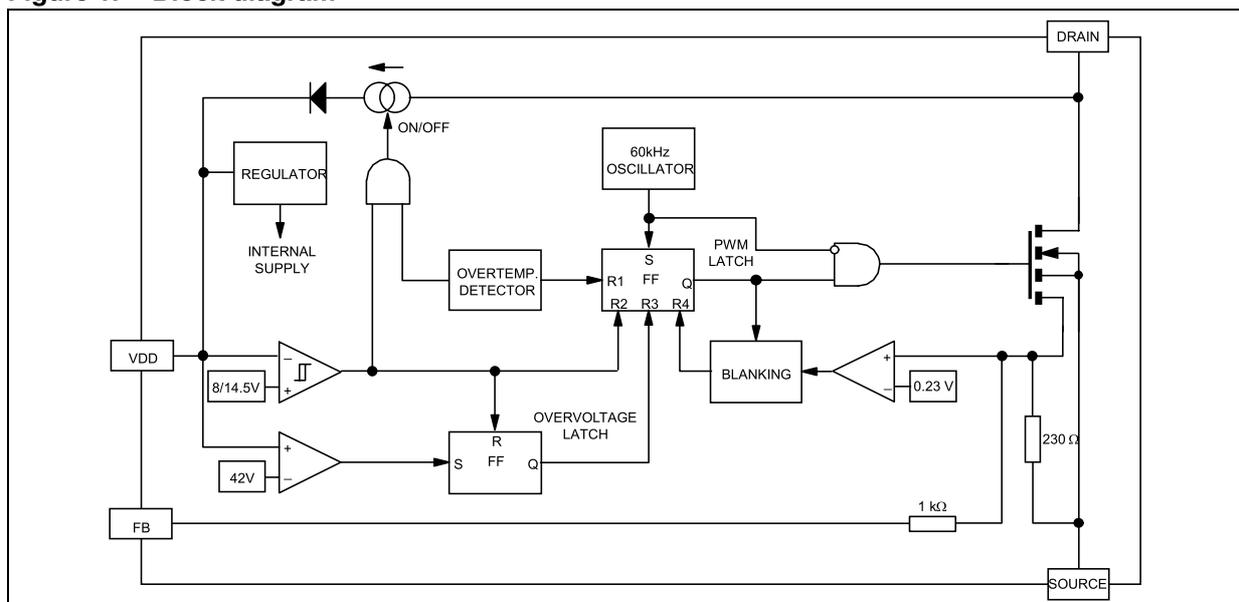
Typical applications cover off line power supplies for battery charger adapters, standby power supplies for TV or monitors, auxiliary supplies for motor control, etc.

The internal control circuit offers the following benefits: Large input voltage range on the V_{DD} pin accommodates changes in auxiliary supply voltage (This feature is well adapted to battery charger adapter configurations), automatic burst mode in low load condition and overvoltage protection in HICCUP mode.

Description

The VIPER12A combines a dedicated current mode PWM controller with a high voltage power MOSFET on the same silicon chip.

Figure 1. Block diagram



3 Pin connections and function

Figure 2. Pin connection

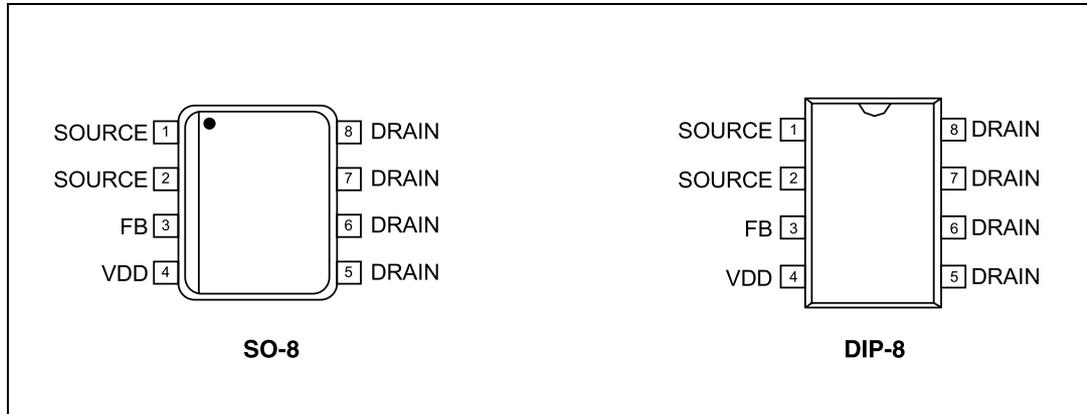


Figure 3. Current and voltage conventions

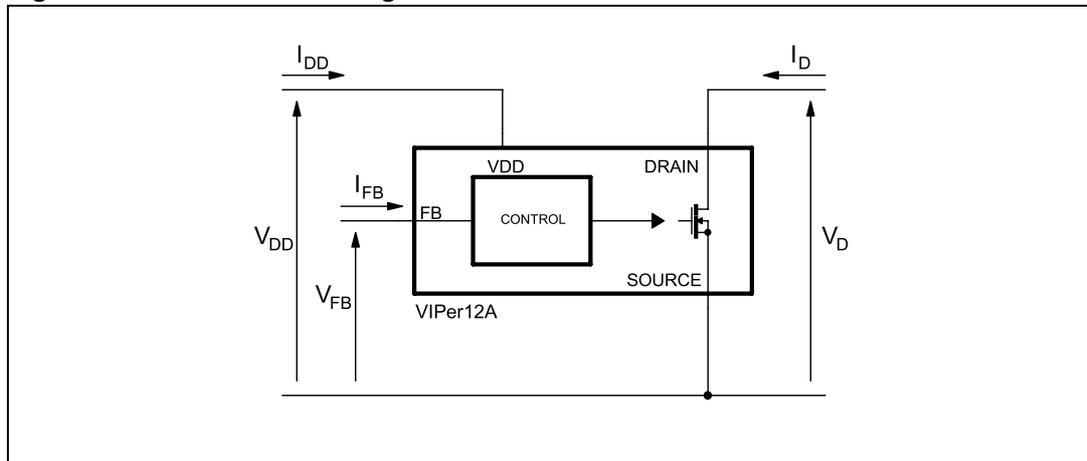


Table 9. Pin function

Pin Name	Pin Function
V _{DD}	Power supply of the control circuits. Also provides a charging current during start up thanks to a high voltage current source connected to the drain. For this purpose, an hysteresis comparator monitors the V _{DD} voltage and provides two thresholds: - V _{DDon} : Voltage value (typically 14.5 V) at which the device starts switching and turns off the start up current source. - V _{DDoff} : Voltage value (typically 8 V) at which the device stops switching and turns on the start up current source.
SOURCE	Power MOSFET source and circuit ground reference.
DRAIN	Power MOSFET drain. Also used by the internal high voltage current source during start up phase for charging the external V _{DD} capacitor.
FB	Feedback input. The useful voltage range extends from 0 V to 1 V, and defines the peak drain MOSFET current. The current limitation, which corresponds to the maximum drain current, is obtained for a FB pin shorted to the SOURCE pin.