

MSP

Monolithic Silicon Power

MSP24085

MSP24085 18V, 3A, 1MHz, High-Performance, Integrated Buck Regulator

18V, 3A, 1MHz, High-Performance, Integrated Buck Regulator in Tiny 3mm X 3mm QFN

General Description

MSP24085 is a constant-frequency, current-mode PWM buck regulator with integrated switchers. The MSP24085 is targeted for cost-sensitive and high-performance applications.

The MSP24085 operates over a supply range of 4.5V to 18V at a fixed 1MHz switching frequency and can be used to provide up to 3A of output current. The output voltage is adjustable down to 0.9V.

The MSP24085 provides the features of low standby current at 10 μ A, device enable, input under-voltage lockout, and output voltage monitoring. The part also provides fault protections of over-current and over-temperature.

The MIC24085 is available in a 16-pin 3mm \times 3mm QFN package with a junction operating range from -40°C to $+125^{\circ}\text{C}$.

Features

Input voltage range 4.5V to 18V

3A output current

1MHz switching frequency

0.9V reference voltage with $\pm 2\%$ accuracy

Fixed output voltages are available at:

1.5V/1.8V/2.5V/3.3V/5V

Peak current-mode PWM with internal compensation

PFM mode for light load efficiency

10 μ A typical shutdown current

1ms internal soft start

Cycle-by-cycle current limit with frequency fold-back

Output overvoltage protection

Enable input/power-good (PG) output

Thermal-shutdown protection

-40°C to $+125^{\circ}\text{C}$ junction temperature range

Available in 16-pin 3mm \times 3mm QFN package

Typical Applications

Applications

- High Current DC/DC Power Supply
- High Input Voltage Switching Regulators
- Faster Transient Microprocessors
- Notebook Computers

