

General Description

The MIC39100, MIC39101, and MIC39102 are 1A low-dropout linear voltage regulators that provide low-voltage, high-current output from an extremely small package. Utilizing Micrel's proprietary Super β PNP™ pass element, the MIC39100/1/2 offers extremely low dropout (typically 410mV at 1A) and low ground current (typically 11mA at 1A).

The MIC39100 is a fixed output regulator offered in the SOT-223 package. The MIC39101 and MIC39102 are fixed and adjustable regulators, respectively, in a thermally enhanced power 8-lead SOIC package.

The MIC39100/1/2 is ideal for PC add-in cards that need to convert from standard 5V to 3.3V, 3.3V to 2.5V or 2.5V to 1.8V. A guaranteed maximum dropout voltage of 630mV over all operating conditions allows the MIC39100/1/2 to provide 2.5V from a supply as low as 3.13V and 1.8V from a supply as low as 2.43V.

The MIC39100/1/2 is fully protected with overcurrent limiting, thermal shutdown, and reversed-battery protection. Fixed voltages of 5.0V, 3.3V, 2.5V, and 1.8V are available on MIC39100/1 with adjustable output voltages to 1.24V on MIC39102.

For other voltages, contact Micrel.

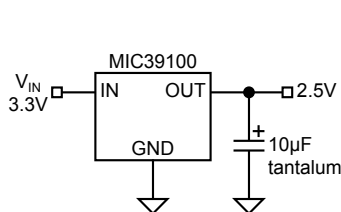
Features

- Fixed and adjustable output voltages to 1.24V
- 410mV typical dropout at 1A
- **Ideal for 3.0V to 2.5V conversion**
- **Ideal for 2.5V to 1.8V conversion**
- 1A minimum guaranteed output current
- 1% initial accuracy
- Low ground current
- Current limiting and thermal shutdown
- Reversed-battery protection
- Reversed-leakage protection
- Fast transient response
- Low-profile SOT-223 package
- Power SO-8 package

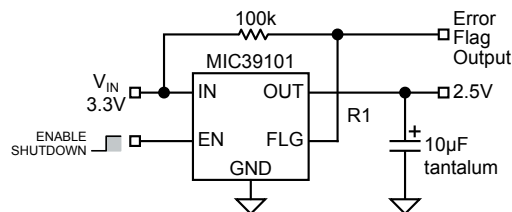
Applications

- LDO linear regulator for PC add-in cards
- PowerPC™ power supplies
- High-efficiency linear power supplies
- SMPS post regulator
- Multimedia and PC processor supplies
- Battery chargers
- Low-voltage microcontrollers and digital logic

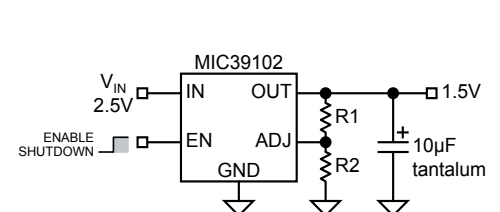
Typical Applications



2.5V/1A Regulator



2.5V/1A Regulator with Error Flag



1.5V/1A Adjustable Regulator