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MICROCHIP

ANALOG SPOTLIGHT

MCP1799

80 mA High-Voltage Automotive LDO

General Information

The MCP1799 is a high-voltage, Low-Dropout (LDO) regulator, capable of generating 80 mA output current. The input voltage range of 4.5V to 45V makes it ideal in 12V to 36V power rails and in high-voltage battery packs. The MCP1799 comes in two standard fixed output voltage versions: 3.3V and 5.0V. The regulator output is stable with 1 µF ceramic capacitors. The device is protected from short-circuit events by the current limit function and from over-heating by means of thermal shutdown protection. The device itself has a low ground current of 45 µA typical, while delivering maximum output current of 80 mA. Without load the device consumes 25 µA typical.

Features

- AEC-Q100 and PPAP capable with Grade 0
- Wide input voltage range: 4.5V to 45V
- Extended operating temperature range: –40°C to +150°C
- Standard output Regulated Voltages (VR): 3.3V and 5.0V
  - Tolerance ±2.0% typical
- Low quiescent supply current: 25 µA typical
- Output current capability: 80 mA typical
  - Short circuit protection
  - Thermal shutdown protection: 180°C
- Available in the following packages
  - 3-Lead SOT-23
  - 3-Lead SOT 223

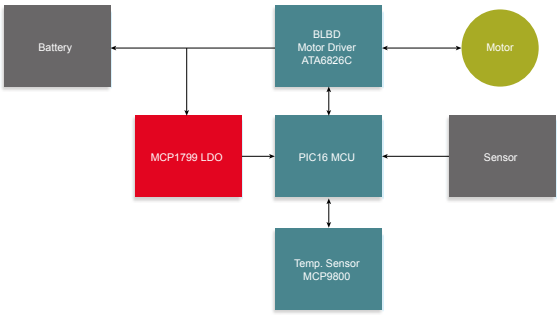
Applications

- Automotive electronics
- Microcontroller biasing
- High-voltage battery packs for power tools
- E-bikes, drones
- Smoke detectors and other alarm sensors

Benefits

- Ideal power solution for wide input voltage up to 45V
- AEC-Q100 qualified device ideal for operating range from –40°C to +150°C
- Short circuit current foldback protection enhances the longevity of the device
- Thermal shutdown protects device from over heating

Cordless Power Tool



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