

MAX4845

Overvoltage Protection Controllers with Low Standby Current

Industry's Smallest Overvoltage Protection Controllers

Overview

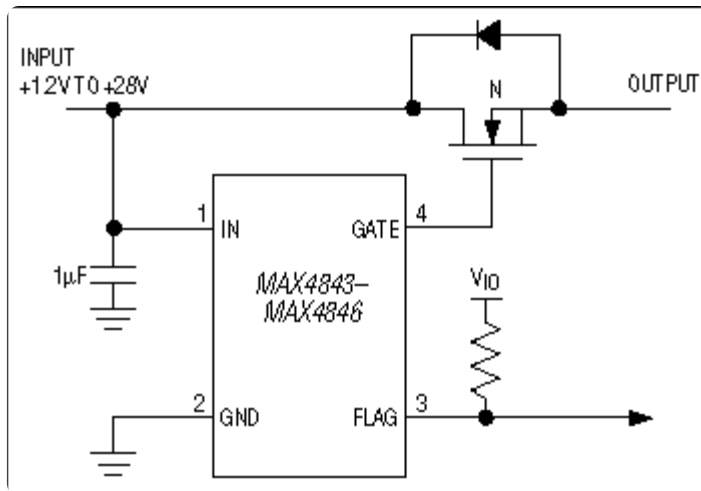
Description

The MAX4843–MAX4846 overvoltage protection controllers protect low-voltage systems against high-voltage faults of up to 28V. When the input voltage exceeds the overvoltage threshold, these devices turn off a low-cost, external n-channel FET(s) to prevent damage to the protected components. An internal charge pump eliminates the need for external capacitors and drives the FET gate for a simple, robust solution.

The overvoltage trip level is set to 7.4V (MAX4843), 6.35V (MAX4844), 5.8V (MAX4845), or 4.65V (MAX4846). When the input voltage drops below the undervoltage lockout (UVLO) threshold, the devices enter a low standby current mode (10 μ A). The MAX4843/MAX4844/MAX4845 have a UVLO threshold of 4.15V, the MAX4845C/MAX4845D have a UVLO threshold of 2.2V, and the MAX4846 has a UVLO threshold of 2.5V. In addition to the single FET configuration, the devices can be configured with back-to-back external FETs to prevent currents from being back-driven into the adapter.

An additional feature includes a ± 15 kV ESD-protected input when bypassed with a 1 μ F capacitor to ground. All devices are offered in small 6-pin μ DFN (1.5mm x 1.0mm) and 6-pin ultra-thin LGA (MAX4845EYT+T only) (1.5mm x 1.0mm) packages and are specified for operation over the -40°C to +85°C temperature range.

MAX4843, MAX4844, MAX4845, MAX4846: Typical Operating Circuit



Key Features

- Overvoltage Protection Up to 28V
- Preset 7.4V, 6.35V, 5.8V, or 4.65V Overvoltage Trip Level
- Low (10µA) Undervoltage Lockout Standby Current
- Drives Low-Cost nMOSFET
- Internal 50ms Startup Delay
- Internal Charge Pump
- Overvoltage Fault FLAG Indicator
- 6-Pin (1.5mm x 1.0mm) µDFN Package

Applications/Uses

- Cell Phones
- Digital Still Cameras
- MP3 Players
- PDAs and Palmtop Devices