Switching Regulators Using LM 2575 and LM 2577

Switching regulators are available in different circuit configurations including the flyback, feed-forward, push-pull, and non-isolated single-ended or single-polarity types. Also, the switching regulators can operate in any of three modes – step-down, step-up, or polarity inverting.

LM 2575 series of regulators developed by National Semiconductor are monolithic IC’s that provide the active functions for step-down (back) switching regulator, capable of driving a 1A load with excellent line and load regulation. These devices are available in fixed output voltages of 3.3V, 5V, 12V, 15V and an adjustable output version.

Requiring a minimum number of external components, these regulators are simple to use and include internal frequency compensation and a fixed-frequency oscillator. LM 2575 series offers a high-efficiency replacement for popular 3-terminal linear regulators. It
substantially reduces the size of the heat sink, and in many cases no heat sink is required. Fixed output voltage version is illustrated in figure.

![LM 2577 switching regulator](image)

The National Semiconductor LM 1577/LM 2577 are monolithic ICs that provide all of the power and control functions for step-up (boost), fly back, and forward converter switching regulators. The device is available in three different output voltage versions: 12 V, 15 V and adjustable.