

Step-Up DC/DC Converter Series White LED Backlight Driver

General Description

The PN2117 Series is a fixed frequency, constant current step-up DC/DC converter ideal for driving LEDs used in backlighting applications on cellular phones, PDAs and digital cameras etc. Output voltage of up to 23V can be derived, and from a 3.2V input six white LED's can be driven in series or alternatively, using a 2.5V input, a network of two parallel legs with three in each may be driven.

Luminance of the LED's is controlled by changing the duty cycle of a PWM signal applied to the CE pin.

In addition, an internal MOSFET with an $R_{ds(on)}$ of 0.8Ω is used. Allow profile and small board area solution can be achieved using a chip coil and an ultra small ceramic output capacitor (CL) of $0.22\mu F$.

Applications

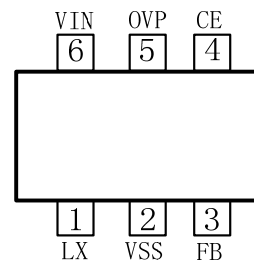
- For White LED Drivers
- Mobil phones, PHS
- PDAs, GPSs
- Digital still cameras

Features

- Input voltage range : 2.5V-6V
- Output voltage range : up to 23V externally set-up reference voltage 0.25V
- Oscillation frequency : 1.0MHz
- On resistance : 0.8Ω
- Efficiency : 88%(When driving 3 white LEDs in series $V_{in}=3.6V$ $I_{LED}=20mA$)
- Control : PWM control
- Stand-by Current : $I_{STB}=1.0\mu A$
- Load capacitor : $0.22\mu F$, ceramic
- Lx limit Current : 1.0A

Package

S0T-23-6L



Typical Application Circuit

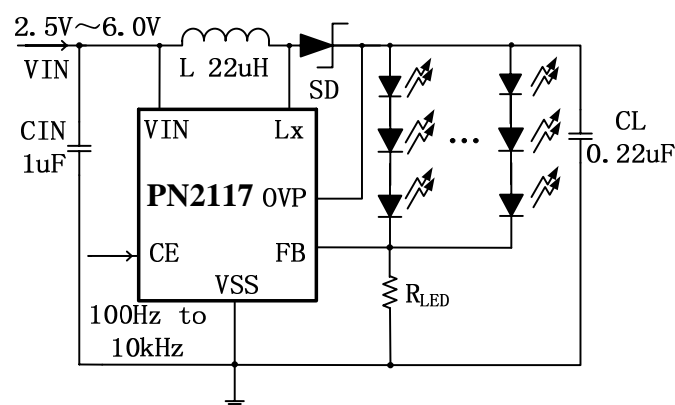


Figure 1. Basic Application Circuit with PN2117