White LED Step-Up Converter In Tiny SOT-23 Package

DESCRIPTION

The TP3984 is a constant current step-up converter specifically designed to drive white LEDs. The Step-up converter topology allows series connection of the white LEDs so the LED currents are identical for uniform brightness. The TP3984 switches at 1.1MHz, allowing the use of tiny external components. The input and output capacitor can be as small as 1μF, saving space and cost versus alternative solutions. A low 0.25V feedback voltage minimizes power loss in the current setting resistor for better efficiency. TP3984 is enhanced with Soft-Start function and that could significantly reduce noise induced by capacitor. The TP3984 is available in low profile SOT23-6 package.

FEATURES

- 2.6V to 5.5V Input Range
- 27V Output with Over Voltage Protection
- High Efficiency :85 % Typical
- Internal Soft-Start
- PWM Dimming Control
- Internal High Power 30V MOSFET Switch
- Fast 1.1MHz Switching Frequency
- Small, Low-Profile Inductors and Capacitors
- SOT23-6 Package
- RoHS Compliant and 100% Lead (Pb)-Free

APPLICATIONS

- Mobile Phone
- Digital Still Camera
- PDAs, Handheld Computers
- MP3 Players
- GPS Receivers

Ordering Information

TP3984 -□□□

F : Pb-Free

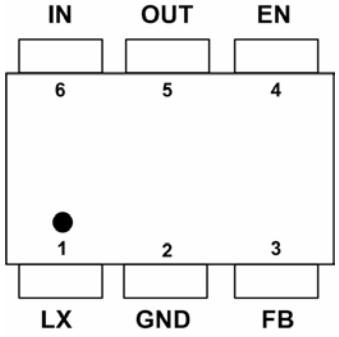
Package Type

B6 : SOT23-6

Marking Information

For marking information, contact our sales representative directly or through a TPmicro distributor located in your area.

Pin Configurations



SOT-23-6

Pin Description

PIN	SOT23-6	DESCRIPTION
LX	1	Switch Pin. Connect inductor/diode here. Minimize trace area at this pin to reduce EMI.
GND	2	Common Ground
FB	3	Feedback Pin. Reference voltage is 0.25V. Connect cathode of lowest LED and resistor here. Calculate resistor value according to the formula: $R_{FB}=0.25/I_{LED}$
EN	4	Chip Enable Pin. Connect to 1.4V or higher to enable device, 0.3V or less to disable device.
IN	6	Input Supply Voltage
OUT	5	Overvoltage Sense. When V_{OUT} is greater than 27V, the internal N-channel MOSFET turns off until V_{OUT} drops below 25V, then the IC reenters start. Connect a 1uF capacitor from OUT to GND.