

### GENERAL DESCRIPTION

The PT4121 is a high efficiency step-down controller. It is designed to operate in continuous conduction mode and drive single or multiple series connected LED efficiently from a voltage source higher than the total LED chain voltage. It operates with a wide input voltage from 6V to 60V and provides an externally adjustable output current.

The PT4121 includes a high-side output current sense circuit, which uses an external resistor to set the nominal average output current, and a dedicated DIM input accepts either a DC voltage or PWM dimming.

The PT4121 is available in SOT23-6 packages.

### FEATURES

- Simple low parts count
- Wide input voltage range: 6V to 60V
- High efficiency (up to 97%)
- Single pin on/off and brightness control using DC Voltage or PWM
- Up to 1MHz switching frequency
- Adjustable Constant LED Current
- Typical 3% output current accuracy
- High-Side Current Sense
- Hysteretic Control: No need compensation
- Inherent  $R_{CS}$  open protection
- Inherent open-circuit LED protection
- Inherent short-circuit LED protection
- Thermal shutdown

### APPLICATIONS

- Low voltage halogen replacement LEDs
- Automotive/Decorative lighting
- Low voltage industrial lighting
- LED back-up lighting
- Signs/Emergency lighting
- SELV lighting
- LCD TV backlighting

### ORDERING INFORMATION

PACKAGE	TEMPERATURE RANGE	ORDERING PART NUMBER	TRANSPORT MEDIA	MARKING
SOT23-6	-40 °C to 85 °C	PT4121E23F	Tape and Reel 3000 units	4121

### TYPICAL APPLICATION CIRCUIT

