



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## High Efficiency Integrated Driver for 4-Strings of 150mA LEDs

### POWER MANAGEMENT Features

- Wide input voltage range from 4.5V to 21V
- 36V maximum output voltage
- Drives up to 40 WLEDs in 4 strings
- **Programmable LED current for up to 150mA per string**
- **+/- 2% string-to-string current matching**
- **Up to 90% efficiency**
- Wide 0.2% to 100% PWM dimming range
- Possible analog dimming
- Integrated 2.5A power switch
- 800kHz switching frequency for small size
- Adjustable OVP for cost-effective output cap selection
- **Open/short LED protection**
- Thermal protection with auto-recovery
- Thermally enhanced TSSOP-20 EDP package
- Fully WEEE and RoHS compliant

### Applications

- Medium-sized LCD panel
- Notebook Display
- Automotive Car Navigation Display
- Sub-Notebook and Tablet Computer Displays
- Portable Media Players

### Description

The SC441 is a high-efficiency multiple string WLED driver with an integrated boost converter. It operates over a wide input range from 4.5V to 21V with a maximum output voltage of 36V and a 2.5A internal power switch. It can drive up to forty WLEDs in 4 strings with current up to 150mA per string. The string-to-string current matching is 2% typical, 3% maximum. The overall efficiency is greater than 90% due to the low current sense voltage and a low-impedance internal power switch. The wide PWM dimming range boasts a ratio of 500: 1.

The 800kHz switching frequency enables the user to optimize the external component sizes for efficiency. When there are fewer than 10 LEDs in each string, users can adjust the output voltage protection yielding an allowable reduction in associated costs, size and voltage ratings of the output capacitor.

The SC441 also features comprehensive open and short-circuit LED protection functions. It disables the corresponding strings with LED open or LED short conditions while maintaining normal operation of other, unaffected LED strings. This feature allows LCD panels to remain viewable even under LED failure, wire disconnect, or short-circuit conditions. The internal thermal shutdown protects the IC from overheating at abnormal conditions.

The SC441 is available in a thermally-enhanced TSSOP-20 EDP package.

### Typical Application Circuit

