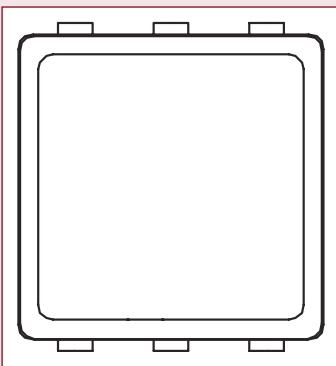


Product Summary Sheet

Applications

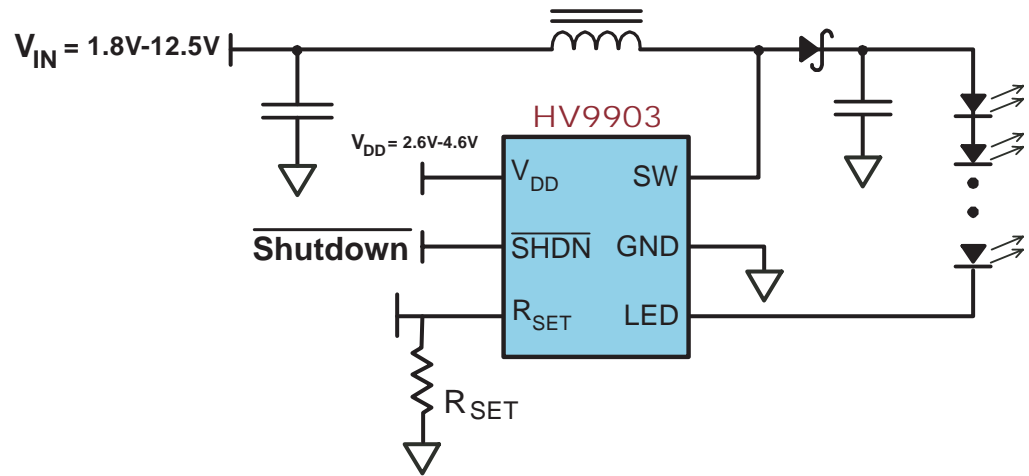
- Color LCD Backlighting
- Cell Phones, Smart Phones
- PDAs, Pocket PCs
- Organizers
- Digital Cameras
- MP3 Players

Package Options



DFN/MLP-6 Package

HV9903 - White LED Driver IC



Typical Application Circuit

Product Overview:

The Supertex HV9903 is a fixed frequency DC-DC boost converter designed for driving Light Emitting Diodes (LEDs) with constant current where the light intensity is proportional to the current through them. The input supply voltage range into the device (V_{DD}) is 2.6 to 4.6V. Operation of the driver at lower voltages is possible as long as a 2.6 – 4.6V low-current supply is available for the HV9903. The device uses a single inductor and a minimum number of passive components. The device can be enabled/disabled via the SHDN pin.

The HV9903 has an internal oscillator. The oscillator frequency is at fixed frequency of 1.2MHz that allows use of small value inductors. The LED current can be adjusted from 5 to 40mA by an external resistor connected between the R_{SET} and the GND pins. The amount of current through the LED can also be adjusted via DC voltage or a pulse width modulated (PWM) signal to the R_{SET} pin.

Soft-start is implemented on-chip, minimizing inrush current to only 30% over steady state current.

An open LED circuit detects an open LED condition, disables the driver, and sets the R_{SET} pin high. The driver is re-enabled by asserting SHDN low, then high. If the open LED condition persists, the driver will again latch off.

Features:

- Up to 85% Efficiency
- Built-in Soft-Start
- Built-in Over Voltage, Open LED Protection
- 1.2MHz Fixed Switching Frequency
- Split Supply Capability
- 500nA max. Shutdown Current
- Tiny, 6-lead, 3mm x 3mm DFN/MLP Package
- Open LED Indicator
- Constant Current Regulation

Benefits:

- Saves battery power
- Saves external parts and space
- Higher reliability
- Allows use of miniature inductor
- Wide V_{IN} operating range, higher efficiency
- Saves battery power during idle periods
- Saves space
- Alerts host system of LED failure
- Provides constant LED brightness

HV9903 - White LED Driver IC

Typical Performance

<u>Device</u>	<u>V_{DD}</u>	<u>V_{IN}</u>	<u># LEDs</u>	<u>R_{SET}</u>	<u>I_{IN}</u>	<u>V_{OUT}</u>	<u>I_{LED}</u>
HV9903	3.3V	1.8 - 12.5	6	1.5K Ω	178mA - 28mA	18.5V - 18.9V	16mA

Ordering Information / Availability

<u>Part Number</u>	<u>Package</u>	<u>Datasheet</u>	<u>Demo Kit</u>	<u>Samples</u>	<u>Lead Time</u>
HV9903	DFN/MLP-6	HV9903 Now	HV9903DB1 Now	HV9903K6 Now	4 - 5 weeks ARO

Product Contact

If you have any questions regarding the HV9903 or would like to receive samples, contact Supertex Applications at:

Telephone: (800) 222-9883
Fax: (408) 222-4895
Email: apps@supertex.com
Web: www.supertex.com

Supertex Sales:

Contact your Supertex Area Sales Office