

FH2120

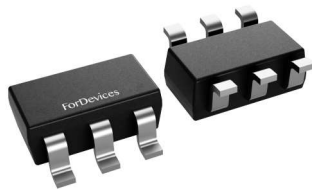
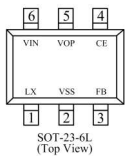
1.2MHz 24V Built-in OVP White LED Boost(Step-Up) Converter -Backlight Driver

Description

The FH2120 Serie is a fixed frequency, constant current step-up DC-DC converter ideal for driving LEDs used in high-definition screen backlight LED driver etc. The highest output voltage is 24.0V, the input voltage of 3.6V can drive 3 series, 17 in parallel, a total of 51 LED. The internal circuit integrated overvoltage protection circuit and temperature protection circuit, and the brightness of the leds can be controlled with a PWM signal. The internal circuit integrates a large pipes of 0.2 ohms.

Package Type

- SOT-23-6L



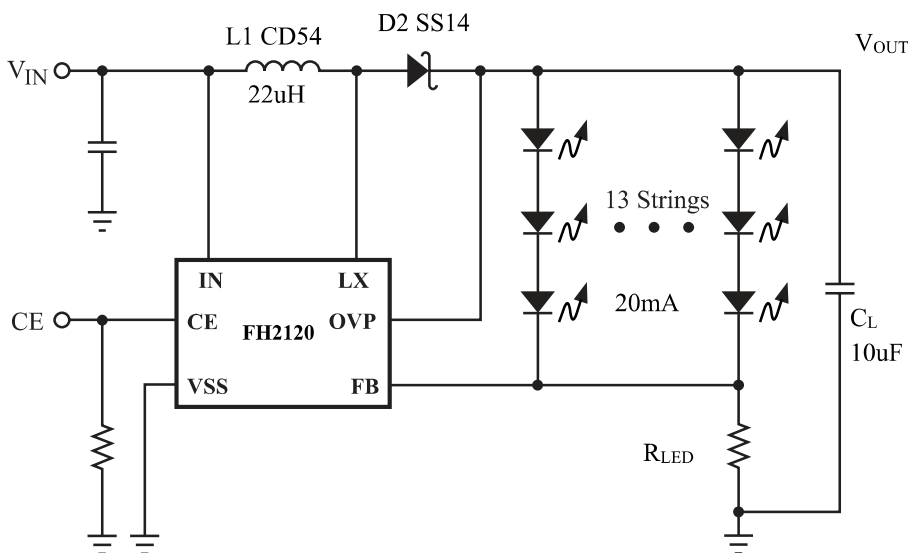
Features

- Input voltage range: 3.0V to 6.0V
- Output voltage range: up to 24V
- Oscillation frequency: 1.2MHz ±20%
- Efficiency: 88%
- Control mode: PWM control
- Stand-by Current: ISTB=1.0uA(MAX)
- Load capacitor: 10uF, ceramic

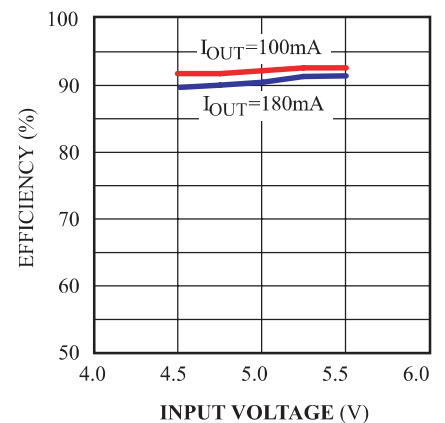
Applications

- LCD Bias
- Hand-held Computers
- Battery Backup
- Digital Cameras
- Personal Navigation Device
- Digital Picture Frame
- Smart Phone

Typical Application Circuit



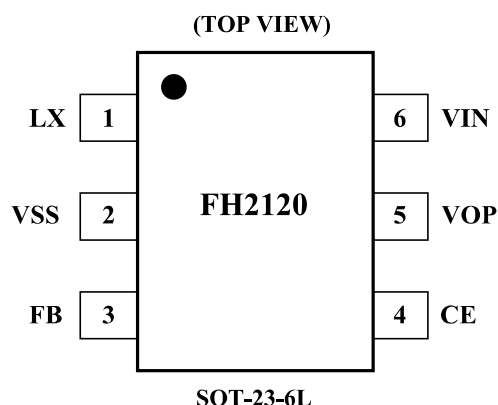
Efficiency vs Input Voltage



The application of single section lithium electricity power supply

Caution The value of the resistance named RLED: $R_{LED} = V_{FB} / (I_{LED} * n)$; VFB is the voltage of the FB pin; ILED is the current of LED and equal to 20mA usually. N is the number of leds in the circuit in parallel.

■ Functional Pin Description



PIN DESCRIPTION

Pin Number	Pin Name	Pin Description
1	LX	Power Switch input. This is the drain of the internal NMOS power switch. Minimize the metal trace area connected to this pin to minimize EMI.
2	VSS	Ground. Tie directly to ground plane.
3	FB	Output voltage feedback input. Connect the ground of the feedback network to an AGND(Analog Ground) plane which should be tied directly to the GND pin.
4	CE	Enable control input, active high. The enable pin is an active high control. Tie this pin above 2.0V to enable the device.
5	OVP	Over Voltage Protection.
6	VIN	Power Input. Input Supply Pin. Bypass this pin with a capacitor as close to the device as possible.

Ordering Information

Part Number	FB Voltage	Features	Operating Temperature	Package Type	Top Mark	SPQ
FH2120AM6	100mV	<ul style="list-style-type: none"> White LED Boost(Step-Up) 	-40°C to +85°C	SOT-23-6L	Y <u>YML</u>	3000PCS/Reel
FH2120BM6	200mV	<ul style="list-style-type: none"> Output Voltage: up to 24V Frequency: 1.2MHz 	-40°C to +85°C	SOT-23-6L	Y <u>YML</u>	3000PCS/Reel
FH2120CM6	230mV	<ul style="list-style-type: none"> Stand-by Current: 1.0uA(max.) PWM Dimming 	-40°C to +85°C	SOT-23-6L	Y <u>YML</u>	3000PCS/Reel
FH2120DM6	250mV	<ul style="list-style-type: none"> Input Voltage: 3.0V ~ 6.0V 	-40°C to +85°C	SOT-23-6L	Y <u>YML</u>	3000PCS/Reel

Note:

- **FH2120A/B/C/D** devices are Pb-free and RoHs compliant.
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ESD SENSITIVITY CAUTION

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.



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▲ Update by Dec.2019