

## Max. 3MHz, Variable Frequency Boost(Step-up) DC/DC Converter

### DESCRIPTION

**Datasheet Brief**

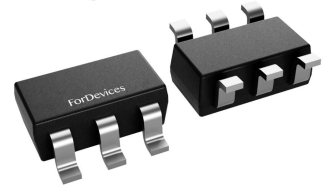
The FH2130 variable frequency boost(step-up) Converter drives white LEDs with a constant current to provide backlight in cell phones, PDAs, and other hand-held devices. It features allowing series connection of the white LEDs so that the LED currents are identical for uniform brightness. An enable input can be pulsed repeatedly to adjust LEDs brightness. The fast 3MHz operation frequency allows for smaller capacitor and inductor. Fault condition protection uses cycle-by cycle current limiting to sense maximum inductor current and over-voltage protection. The 0.2V low reference voltage minimized the power loss across the current sense resistor.

The converter can operate from 2V to 6V, and capable of delivering maximum 200mA output current at 4-LEDs application with 3V input voltage. Quiescent current drawn from power source is as low as 120uA. All of these features make FH2130 be suitable for the portable devices, which are supplied by a single battery.

FH2130 is available in SOT23-6 package that is PB free.

### FEATURES

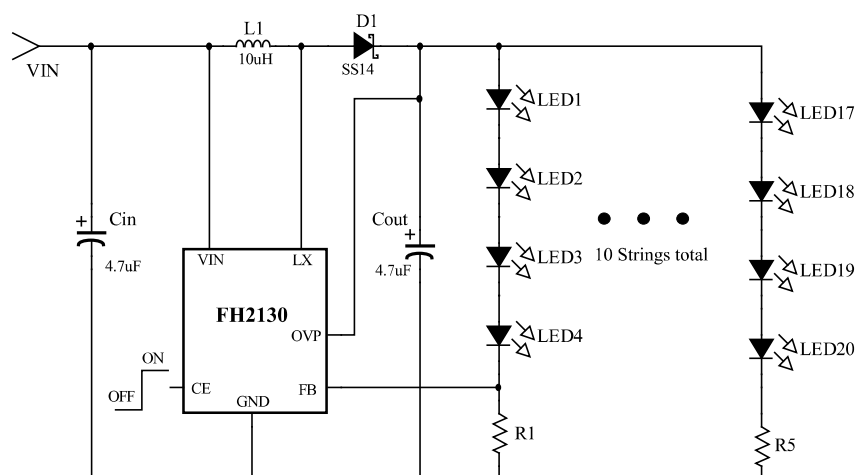
- Output Voltage: Up to 24.0V
- Wide Operation Range: 2.0V to 6.0V
- Maximum 3.0MHz Operating Frequency
- PWM Dimming Control
- Shutdown Current <1.0uA
- Current Limit Cycle-by-Cycle
- Low Current Sense Threshold: 200mV
- 24V Over Output Voltage Protection
- Compact SOT-23-6L Package



### APPLICATIONS

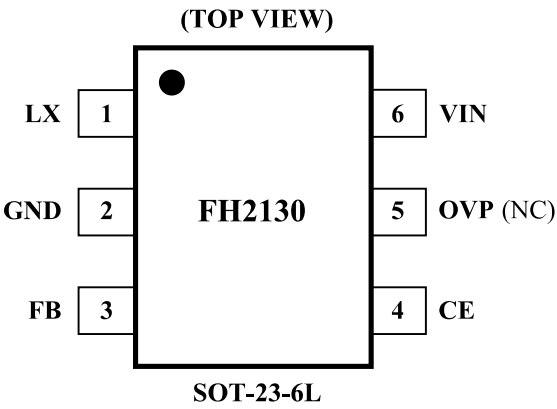
- Camera Flash White LED
- Mobile Phone, Smart Phone LED Backlight
- PDA LED Backlight
- Digital Still Camera
- Camcorder

### TYPICAL APPLICATION



**Figure 1. FH2130 Typical Application Circuit**

PIN CONFIGURATION

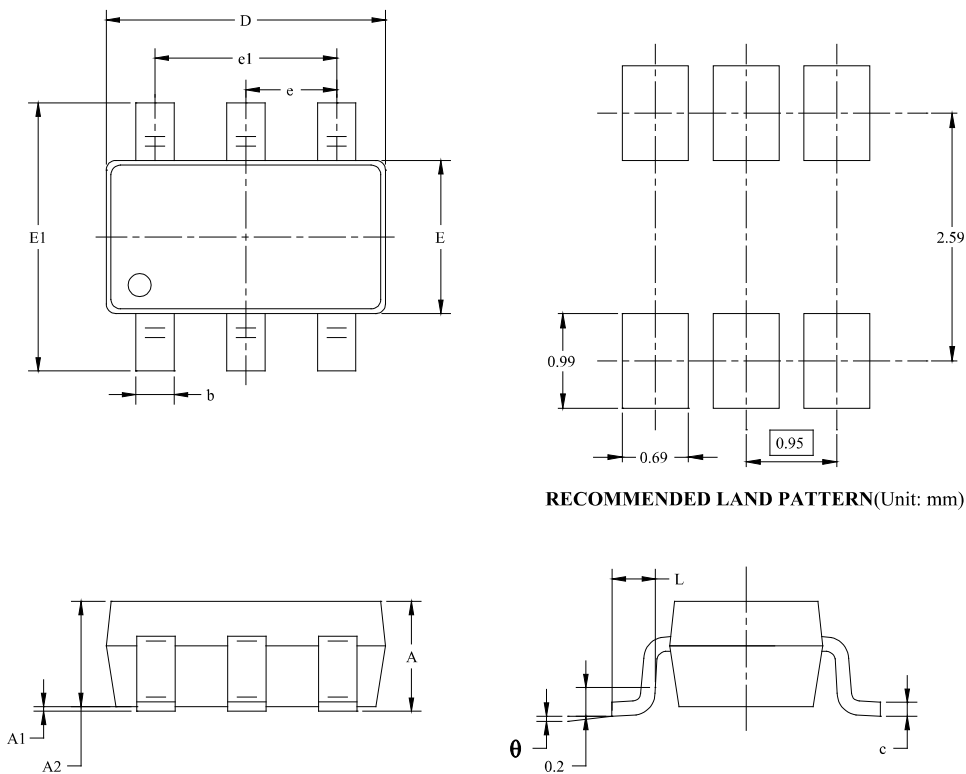


PIN DESCRIPTION

Pin No.	Symbol	Description
1	LX	Switching node
2	GND	Ground
3	FB	Pin for Feedback Voltage
4	CE	Chip Enable Pin (Active with “H”), connect to VIN if not used.
5	OVP	Over Voltage Protection
6	VIN	Power Supply

PACKAGE OUTLINE DIMENSIONS

- Type: SOT-23-6L



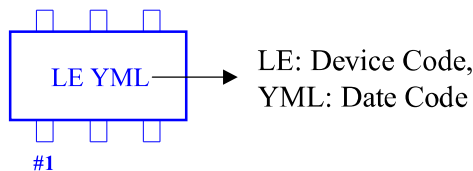
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 BSC		0.037 BSC	
e1	1.900 BSC		0.075 BSC	
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

## ORDERING INFORMATION

Part Number	Voltage Range	Features	Operating Temperature	Package Type	Top Mark	SPQ
FH2130M6	2.0 ~ 6.0V	<ul style="list-style-type: none"> <li>• Boost(Step-up) Converter</li> <li>• Up to 24.0V</li> <li>• Frequency: 3.0MHz</li> <li>• VFB: 0.20V</li> <li>• PWM Dimming</li> </ul>	-40°C to +85°C	SOT-23-6L	LE <u>Y</u> M <u>L</u>	3000PCS/Reel

**Note:**

- **FH2130** devices are Pb-free and RoHs compliant.
- The surface prints of our semiconductor devices are subject to change during the production process and do not involve changes in electrical parameters, and we will not separately state the notice.
- If you have any other custom purchase needs, please contact our sales department.
- ForDevices reserves the right to amend and legally interpret the electrical parameters of this chip device. (<http://www.fordevices.com>)

**Device Name: SOT-23-6L****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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