

*Parameters Subject to Change Without Notice*

## FEATURES

- 4.6V to 44V operating input range
- 2A peak switch current
- Analog dimming and PWM dimming
- Constant off-time operation
- SW over voltage lockout
- Thermal protection
- Available in SOT23-6

## APPLICATIONS

- LED Driver

## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Unit
Input Voltage	VIN	12	V
Output Voltage	VOUT	24	V
Output Current	IOUT	200	mA

## DESCRIPTION

The JW1130H is a current mode monolithic LED driver. The LED current can be controlled with an analog input voltage.

With high-side LED current sensing, the JW1130H can be configured as buck, boost or buck-boost topology to serve different LED driver need.

The integrated 44V/2A N-Channel MOSFETs ensures high efficiency operation.

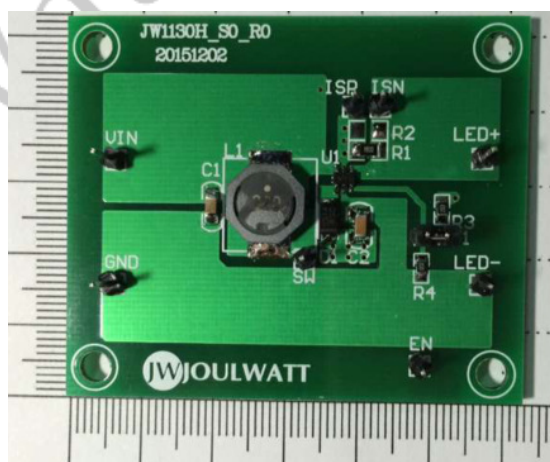
At light loads, JW1130H operates in low frequency to maintain high efficiency and low output ripple.

The overvoltage lockout protection on SW pin protects JW1130H from open LED fault.

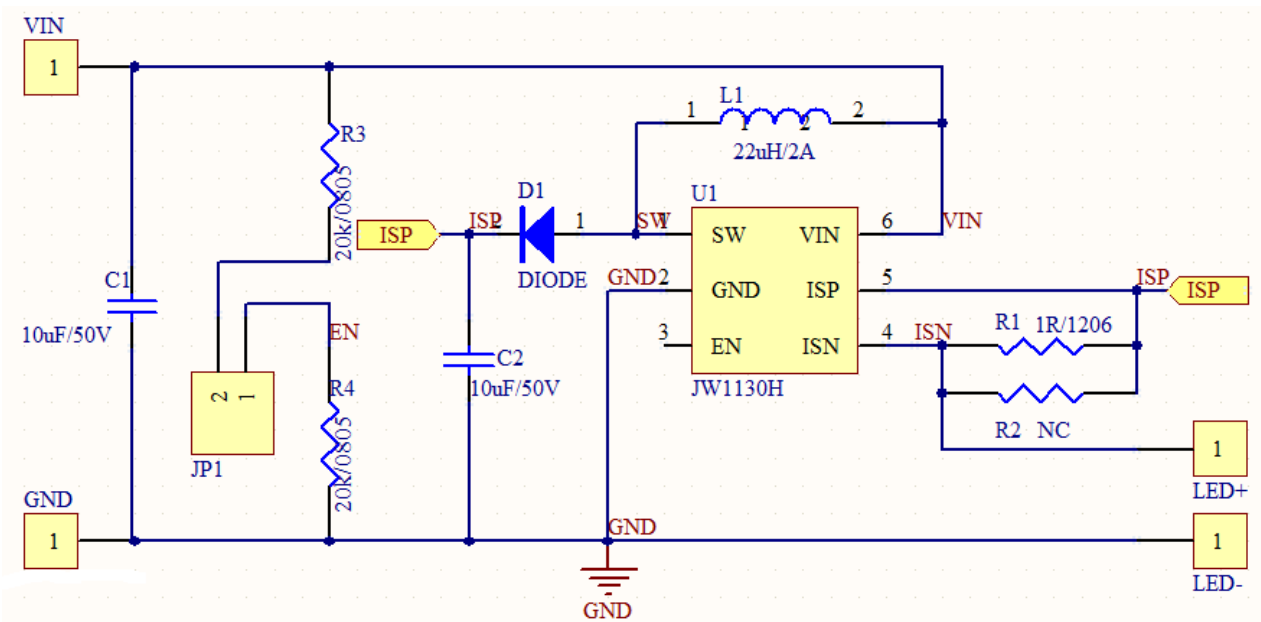
JW1130H also has thermal protection at 140°C.

The JW1130H is available in a 6-pin SOT23-6 and a 8-pin ESOP8 package, which provides a compact solution with minimal external components.

## EVALUATION BOARD



**SCHEMATIC**



**BILL OF MATERIALS**

Qty	Designator	Value	Description	Package	Manufacturer	Manufacturer P/N
1	D1	40V/1A	SS14	SMA		
1	C1	10uF	Ceramic capacitor 50V, X7R	1206C		
1	C2	10uF	Ceramic capacitor 50V, X7R	1206C		
1	R1	1R	Resistor,1%	1206R		
1	R2	NC	Resistor,1%	1206R		
1	R3	20K	Resistor,5%	0805R		
	R4	20K	Resistor,5%	0805R		
1	L1	22uH/2A			WE	
1	U1	JW1130H		SOT23-6	JoulWatt	

## PRINTED CIRCUIT BOARD LAYEROUT

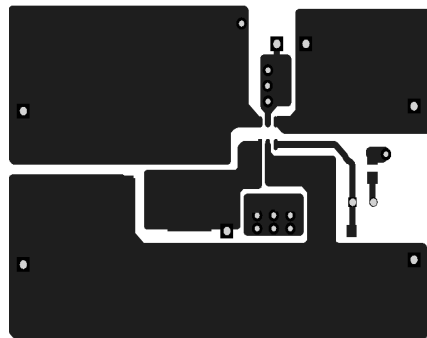


Figure1—Top Layer

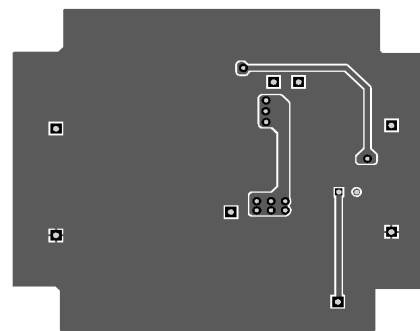


Figure2—Bottom Layer

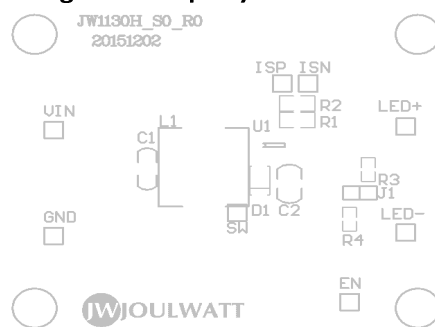


Figure3—Silk Layer

## QUICK START GUIDE

The EV1130H is a boost LED driver, and can supply 44V output voltage and 125mA output current.

1. Connect the positive terminal and negative terminal of the LEDs (LEDs voltage: 44V) to the red test point and black test point at the output side of the EVB, respectively.
2. Connect a power supply between the red test point and black test point at the input side of the EVB, with the supply in “OFF” state. Set the output voltage of the power supply to 5V.
3. Turn on the power supply and the evaluation board starts operating in normal condition.
4. The output current can be adjusted by varying the R1 on EVB.
5. For example: Setting the output current to 0.5A, the R1 is calculated by:  

$$R1 = 0.2V / 0.5A = 400m\Omega.$$
6. Connect 5V PWM signal to EN pin, and the output current can be changed with the duty cycle variation of the PWM signal.
7. For more information, please refer to the datasheet of JW1130H.

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