

*Parameters Subject to Change Without Notice*

## FEATURES

- 4.6V to 44V operating input range  
2A peak switch current
- Analog dimming
- Constant Off-time Operation
- SW over voltage lockout
- Available in SOT23-6 package
- Thermal protection

## APPLICATIONS

- LED Driver

## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Unit
Input Voltage	VIN	12	V
Output Voltage	VOUT	2	LEDs
Output Current	IOUT	350	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 Peak N-Channel MOSFETs ensures high efficiency operation.

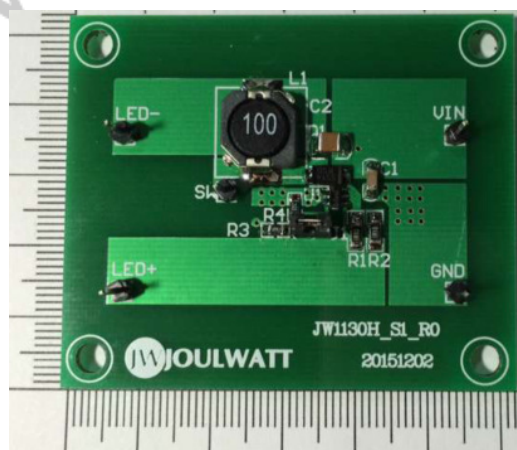
At light loads, JW1130H operates in low frequency to maintain high efficiency and low output ripple.

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

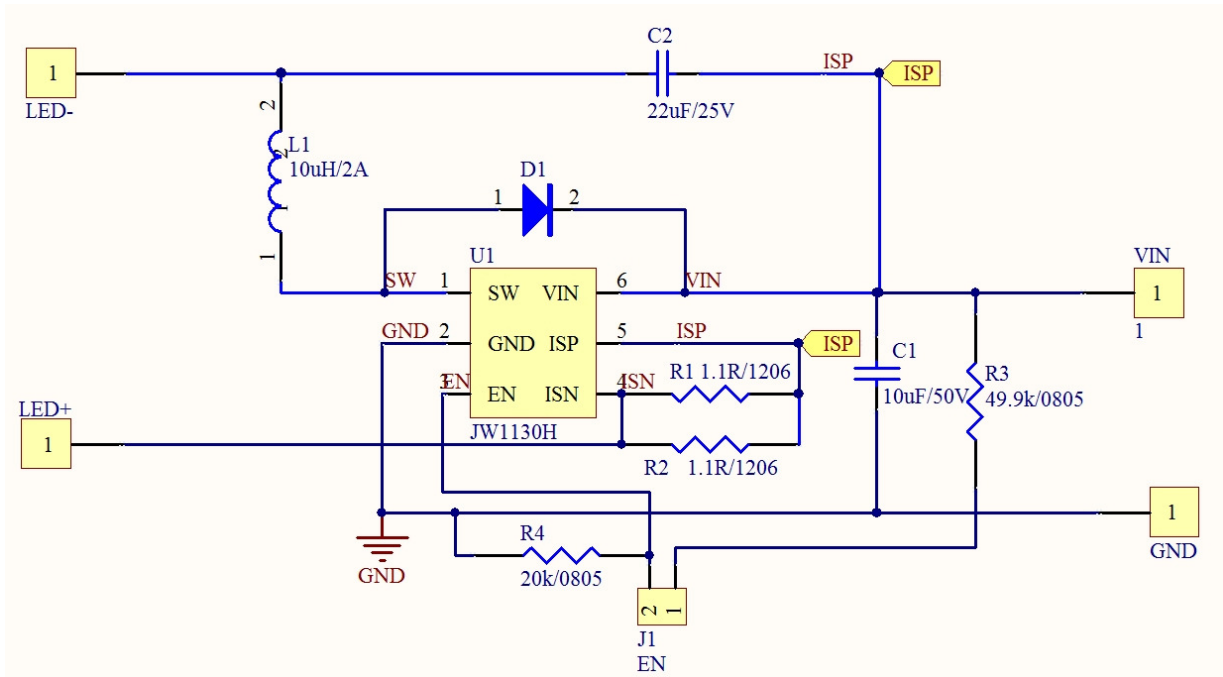
The JW1130H also has thermal protection at 140°C.

The JW1130H is available in a 6-pin SOT23-6 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	44V/1A	SS14	SMA		
1	C1	10uF	Ceramic capacitor 50V, X7R	1210C		
1	C2	22uF	Ceramic capacitor 25V, X7R	1210C		
1	R1	1.1R	Resistor,1%	1206R		
1	R2	1.1R	Resistor,1%	1206R		
1	R3	49.9K	Resistor,5%	0805R		
1	R4	20K	Resistor,5%	0805R		
1	L1	10uH/2A			WE	
1	U1	JW1130H		SOT23-6	JoulWatt	

## PRINTED CIRCUIT BOARD LAYER OUT

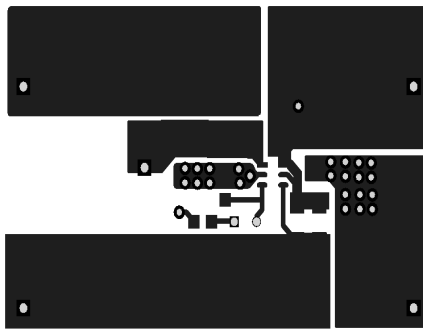


Figure1—Top Layer

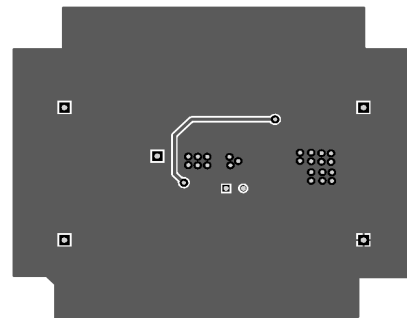


Figure2—Bottom Layer

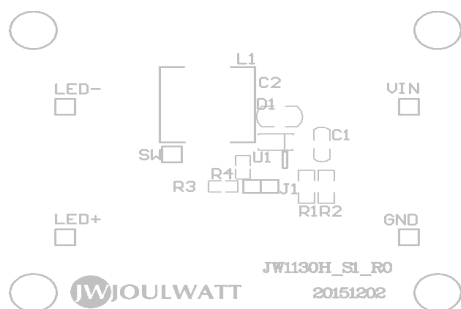


Figure3—Silk Layer

## QUICK START GUIDE

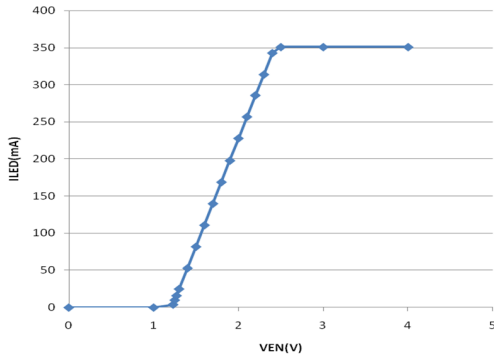
The EV1130H is a Buck LED driver, and can drive 1~4 LEDs with 350mA output current.

1. Connect the positive terminal and negative terminal of the LEDs to the test points at the output side of the EVB, respectively.
2. Connect a power supply between the test points at the input put side of the EVB, with the supply in “OFF” state. Set the output voltage of the power supply to 12V.
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 or R2 on EVB.  
For example: Setting the output current to 0.5A, the R1 is calculated by:  
 $R1 = 0.2V / 0.5A = 400m\Omega$ .
5. Connect 5V PWM signal to EN pin, and the output current can be changed with the duty cycle variation of the PWM signal.
6. For more information, please refer to the datasheet of JW1130H.

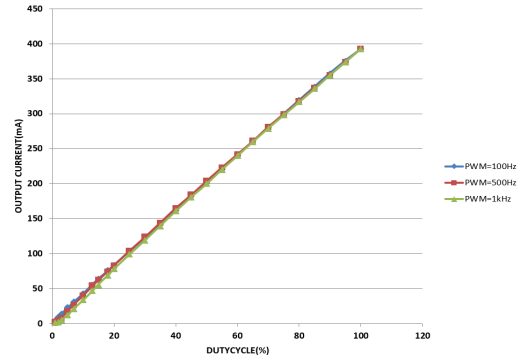
TYPICAL PERFORMANCE CHARACTERISTICS

Vin = 12V, Io = 350mA, L = 10μH, 2 LEDs Load, TA = +25°C, unless otherwise noted

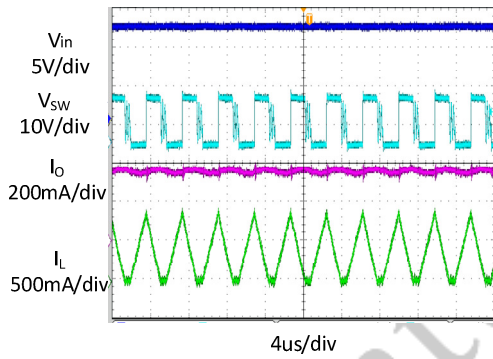
Analog Dimming  
ILED Vs EN/DIM Voltage



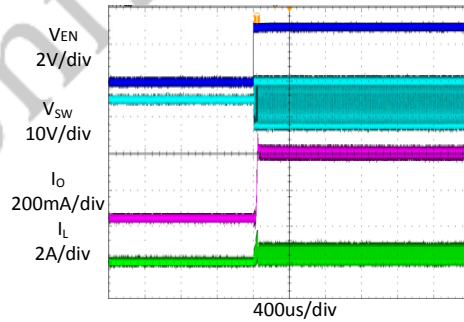
PWM Dimming  
Duty cycle Vs Output Current



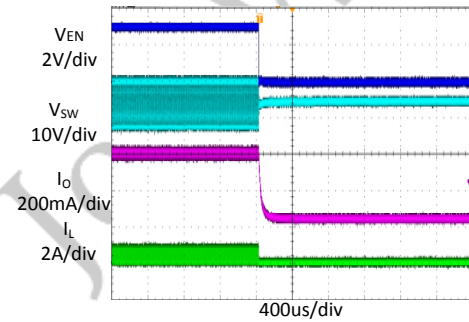
Steady State



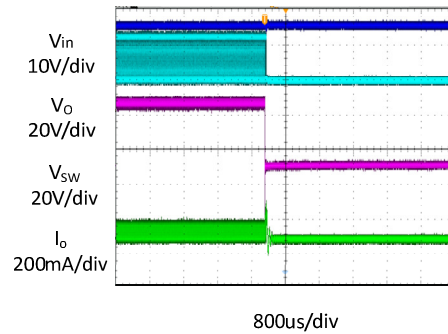
EN/DIM Startup



EN/DIM Shutdown



Open Circuit



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