

Parameters Subject to Change Without Notice

FEATURES

- High-accuracy output current.
- Over temperature protection.
- No EMI problem.
- Compatible with PWM dimming, analog dimming and TRIAC dimming.
- Low BOM cost.

APPLICATIONS

- LED Lighting

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Unit
Input Voltage	VIN	200-260	V
Output Voltage	VOUT	250-270	V
Output Current	IOUT	25	mA

DESCRIPTION

EV1691H_S1_R0 is a 260V/25mA LED driver EVB based on JW1691H.

JW1691H is a single channel Linear LED driver with 500V MOSFET integrated, the output current is set by the external resistor, between 5mA~60mA. The output current has little variation with OUT pin's voltage variation. The system topology is simple with few external devices and very low cost.

JW1691H provides over temperature protection. When temperature inside chip exceeds 130°C, JW1691H decreases LED current, which can help chip cooling.

EVALUATION BOARD

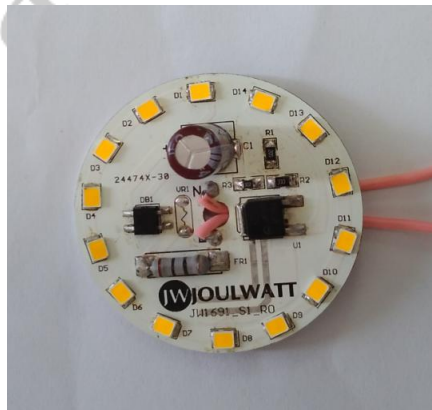
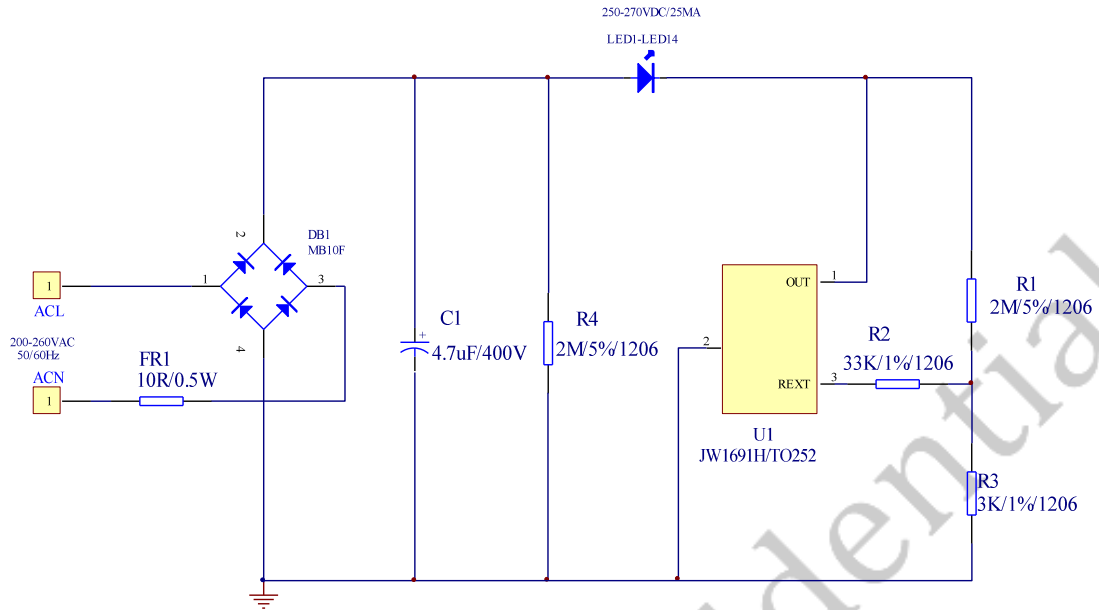


Fig.1 Top

SCHEMATIC



BILL OF MATERIALS

Qty	Designator	Comment	Description	Package	Manufacturer	Manufacturer P/N
1	DB1	GUB40	Diode Bridge	BRIDGE-MB10		
1	FR1	10R/0.5W	Fuse resistor	R0.5W		
1	C1	4.7uF/400V	ECAP	CAP-8		
2	R1, R4	2M/5%/1206	Resistor	1206R		
1	R2	33K/1%/1206	Resistor	1206R		
1	R3	3K/1%/1206	Resistor	1206R		
1	U1	JW1691H/TO252-2	IC-JW1691H	TO252-2	Joulwatt	
14	D1-D14	18-20V	LED	2835		

PRINTED CIRCUIT BOARD LAYER OUT

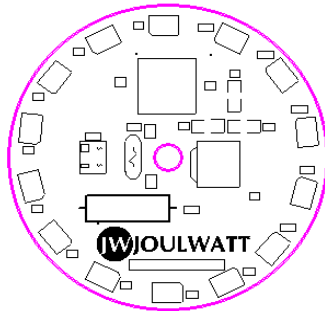


Fig.1 Top Overlay

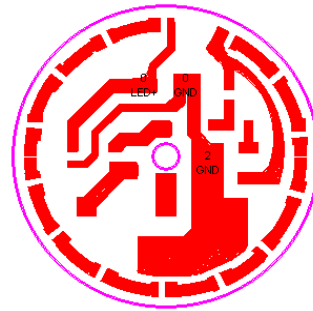


Fig.2 Top Layer

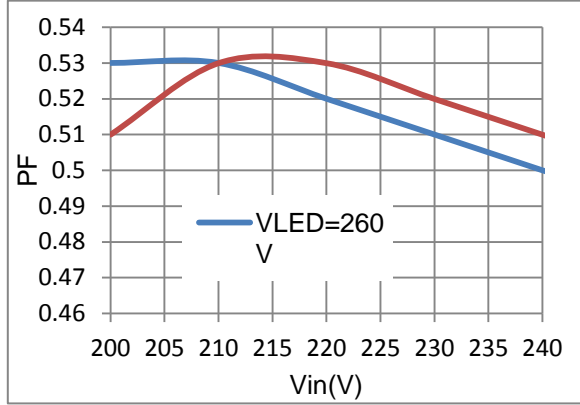
QUICK START GUIDE

1. Set the AC source to 200V ~260V, turn off the source.
2. Connect the "Line" of AC source to the "L", and "neutral" to "N"
3. Turn on the power supply. The evaluation board starts operating in normal condition.
4. The LED current can be adjusted by changing the current sensing resistor of JW1691H. For example: Setting the LED current to 30mA, the current sensing resistor is:
 $R_s \approx 2000 \times 0.5V / 0.03mA \times 0.89 = 30K\Omega$, then $R_3 = 3 K\Omega$, $R_2 = 27 K\Omega$.
5. For more information, please refer to the datasheets of JW1691H.

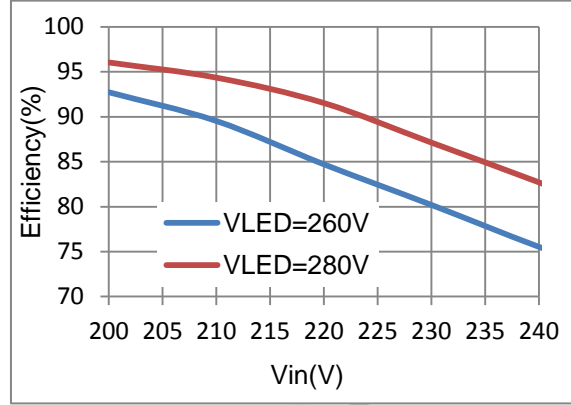
TYPICAL PERFORMANCE CHARACTERISTICS

VIN=220VAC, Output 260V25mA unless otherwise noted

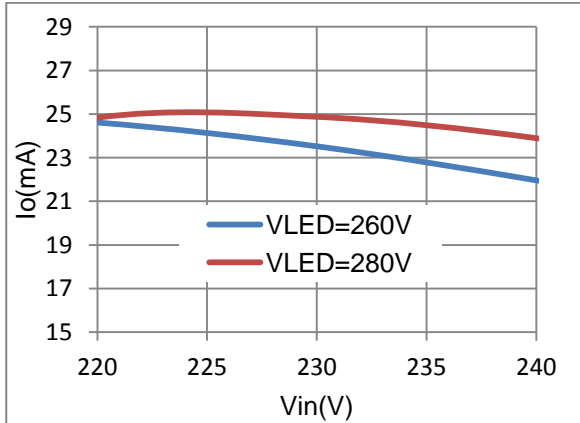
Tab.1 PF VS Vin



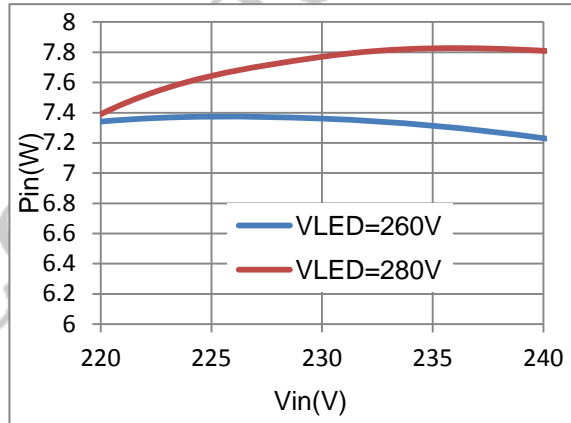
Tab.2 Efficiency VS Vin



Tab.3 Io VS Vin



Tab.5 Pin VS Vin



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REVISIONHISTORY

REV	DATE	DESCRIPTION
Rev.0.1	05/05/2017	Initial revision

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