

## DESCRIPTION

The EV4688-N-00A is an evaluation board for high power LED driver. It is implemented by MP4688DN, an integrated Buck white LED driver which is suitable for automotive, industry and general lighting applications with MPS patented pending technology.

The EV4688-N-00A is recommended to drive a single-string LEDs. It can drive up to 19 LEDs in one string. It regulates the LED current at about 730mA.

## ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V <sub>IN</sub>	4.5 to 80	V
Enable/Dimming	EN/DIM	5	V
LED Current	I <sub>LED</sub>	730	mA
Over Current Protection	OCP	3.2	A

## FEATURES

- Wide 4.5V to 80V Operating Input Range
- No Output Capacitor Required
- $\pm 5\%$  LED Current Accuracy
- Hysteretic Control: No Compensation
- Up to 2MHz Switching Frequency
- Up to 20kHz Dimming Frequency
- Dedicated PWM Dimming Control Input
- Short circuit protection with integrated high side MOSFET
- Optional Output Voltage Limitation
- Thermal shut down
- 200mV reference voltage for high efficiency
- Up to 95% Efficiency
- 120 $\mu$ A Quiescent Current
- Available in SOIC8 with Exposed Pad Packages

## APPLICATIONS

- High Power LED Driver
- Automotive, Industry and General Lighting
- Constant Current Source

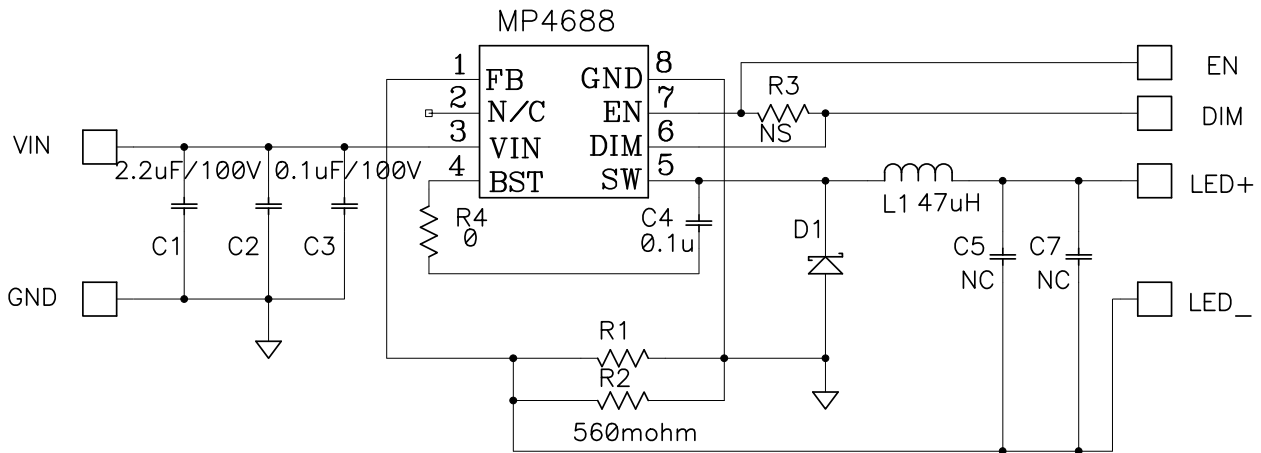
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## EV4688-N-00A EVALUATION BOARD



**Components Area: 0.66" x 1.17" (1.7cm x 3cm)**

Board Number	MPS IC Number
EV4688-N-00A	MP4688

**EVALUATION BOARD SCHEMATIC**

**EV4688-N-00A BILL OF MATERIALS**

Qty	Ref	Value	Description	Package	Manufacturer	Manufacturer P/N
2	C1, C2	2.2µF	Ceramic Cap., 100V, 10%, X7R	1210	muRata	GRM32ER72A225K
1	C3	0.1µF	Ceramic Cap., 100V, 10%, X7R	0805	muRata	GCM21BR72A104K
2	C4	0.1µF	Ceramic Cap., 50V, 10%, X7R	0603	muRata	GRM188R71H104K
0	C5, C7	NS		0603		
1	D1	1A	Schottky Rect., 100V, 1A	SMB	STMicroelectronics	STPS1H100U
1	L1	47µH	Inductor, Rdc 344mΩ, Isat 3.1A	SMD	Cooper	HC8LP-470-R
2	R1, R2	560mΩ	Film Res., 1/8W, 1%	0805	Panasonic	ERJ-6RQFR56V
0	R3	NS		0603		
1	R4	0Ω	Film Res., 5%	0603	Yageo	RC0603JR-070RL
1	U1		Power Led Driver	SO8E	MPS	MP4688DN
1	EN, DIM, GND		4 Pin Header, 2.54mm	2.54mm	Sullins	PCC04SAAN

PRINTED CIRCUIT BOARD LAYOUT

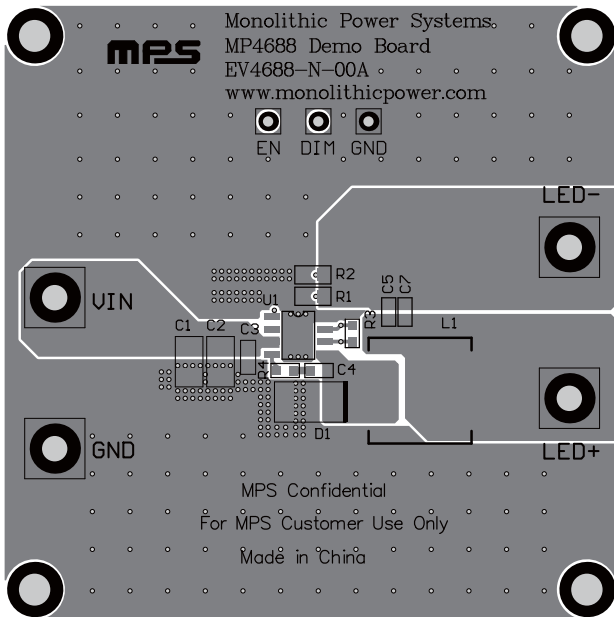


Figure 1—Top Layer

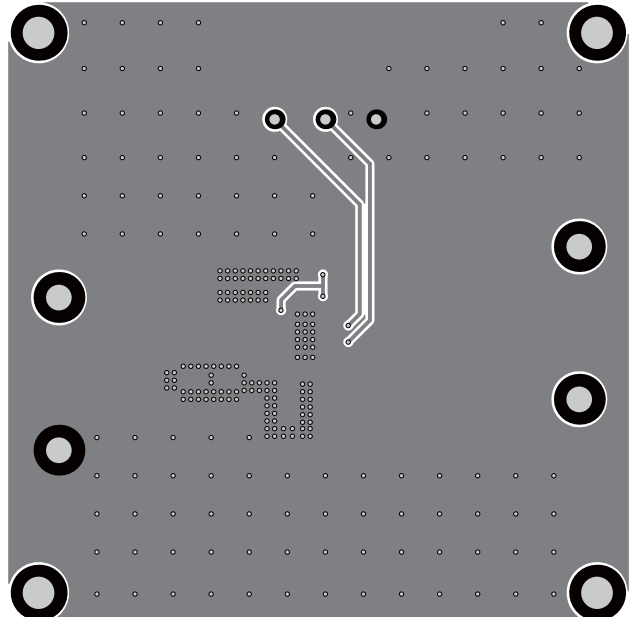


Figure 2—Bottom Layer