

DESCRIPTION

The EV3202-00A is an evaluation board for the MP3202, a step-up converter designed for driving up to 39 white LEDs (13 strings of 3 LEDs each) from a 5V system rail, or 27 white LEDs from 4.5V to 6V.

The MP3202 uses current mode, fixed frequency architecture to regulate the LED current, which is measured through an external current sense resistor. Its low 104mV feedback voltage reduces power loss and improves efficiency. The OV pin monitors the output voltage and turns off the converter if an over-voltage condition is present due to an open circuit condition.

The MP3202 includes under-voltage lockout, current limiting and thermal overload protection preventing damage in the event of an output overload.

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	4.5 – 6	V
Number of LEDs		27	

FEATURES

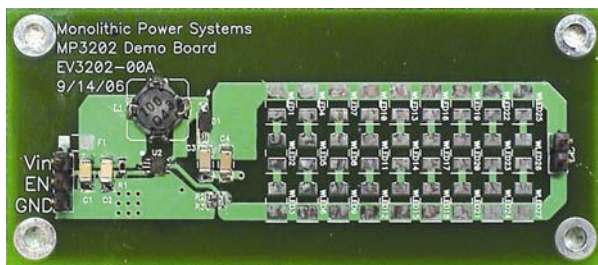
- 4.5V to 6V Input Voltage Range
- Drives up to 27 White LEDs
- Up to 92% Efficiency
- Soft-Start/PWM Dimming
- Fully Assembled and Tested

APPLICATIONS

- Cell Phones
- Handheld Computers and PDAs
- Digital Still Cameras
- Small LCD Displays

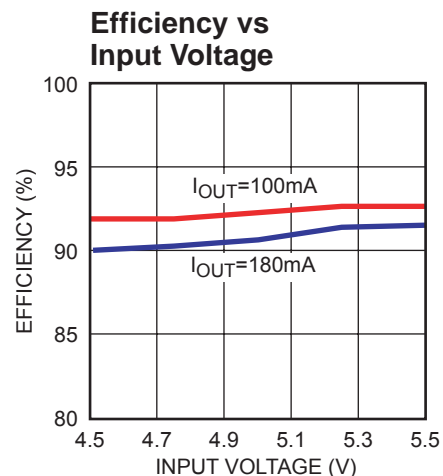
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EV3202-00A EVALUATION BOARD

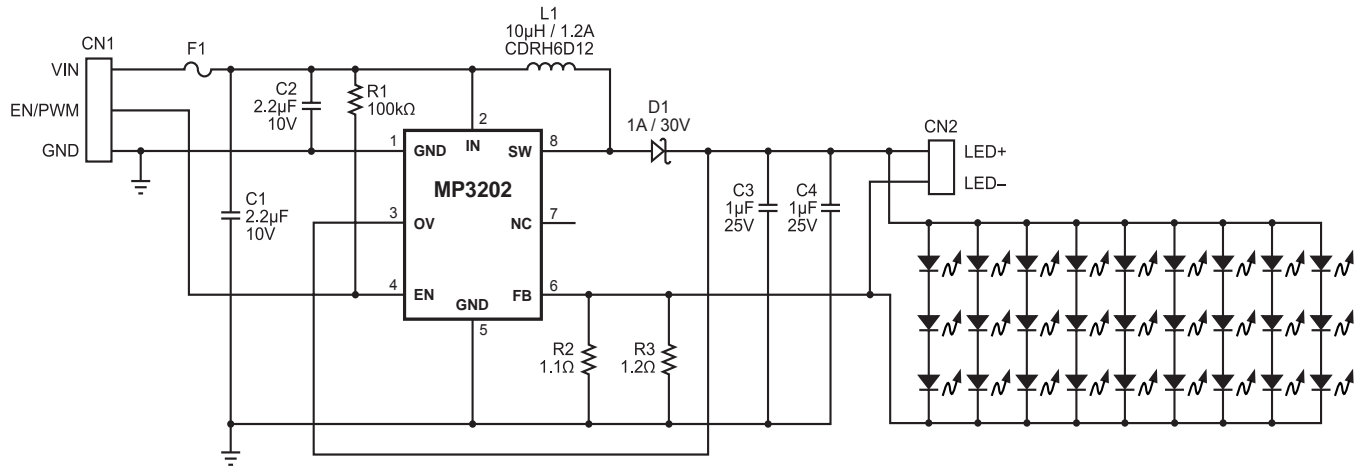


(L x W x H) 3.1" x 1.4" x 0.5"
7.8cm x 3.5cm x 1.2cm

Board Number	MPS IC Number
EV3202-00A	MP3202DG



EVALUATION BOARD SCHEMATIC



EV3202-00A BILL OF MATERIALS

Qty	Ref	Value	Description	Package	Manufacturer Part No.
2	C1,C2	2.2µF	Ceramic Capacitor, 10V, X5R	1206	Panasonic: ECJ-3YB1A225K
2	C3, C4	1µF	Ceramic Capacitor, 25V, X7R	1206	TDK: C3216X7R1E105K/.85
1	D1		Diode Schottky, 30V, 1A, 450mW	SOD-123	Diodes Inc: B130LAW-7-F
1	L1	10µH	Inductor, 1.2A	SMD	Sumida: CDRH6D12-100NC
27	LED1 to LED27		White Led, 3.6V, 40 MCD, Not Stuffed	SMD	Lumex: SML-LX23UWC-TR
1	R1	100kΩ	Resistor, 5%	0603	Panasonic: ERJ-3GEYJ104V
1	R2	1.1Ω	Resistor, 5%	0603	Panasonic: ERJ-3GEYJ1R1V
1	R3	1.2Ω	Resistor, 5%	0603	Panasonic: ERJ-3GEYJ1R2V
1	U1		Fixed Frequency Boot , White Led Driver	2x2 QFN8	MPS: MP3202DG
1	F1		1A Fuse	1206	
1	CN1		3-Pin Connector Header, 0.100		Sullins: PTC03SAAN
1	CN2		2-Pin Connector Header, 0.100		Sullins: PTC02SAAN

PRINTED CIRCUIT BOARD LAYOUT

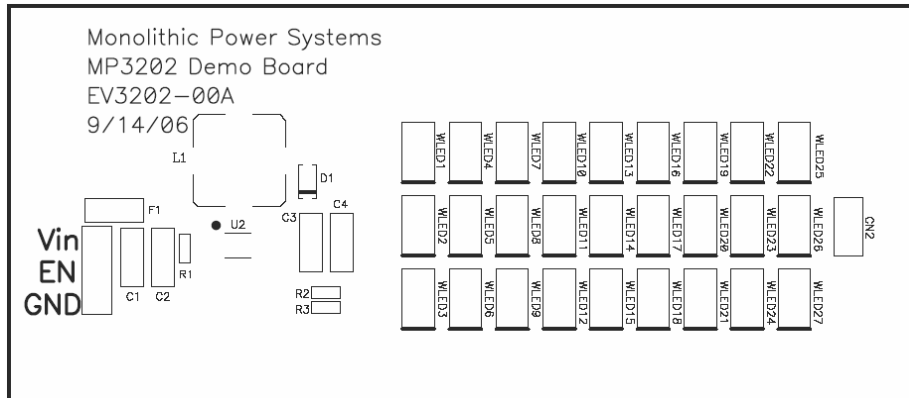


Figure 1—Top Silk Layer

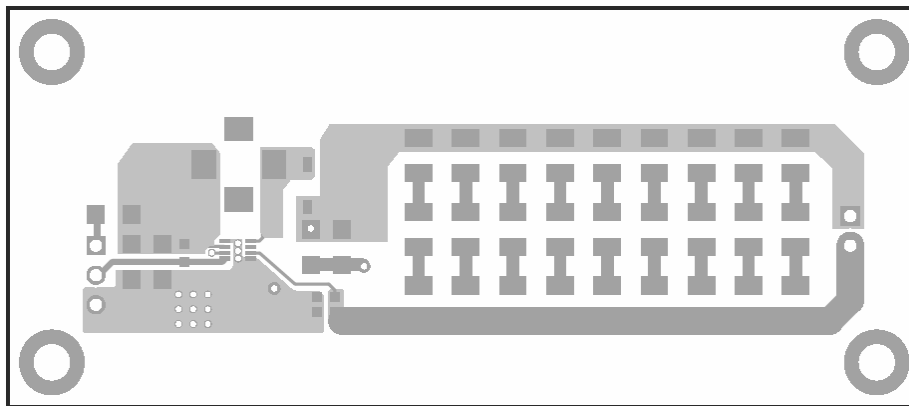


Figure 2—Top Layer

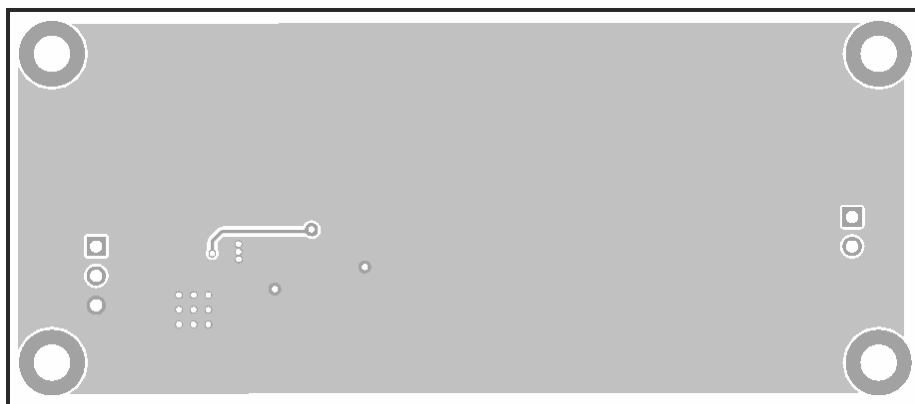


Figure 3—Bottom Layer

QUICK START GUIDE

1. Solder LED1 – LED27 to board.
2. Connect the positive and negative terminals of the power supply (4.5V to 6V) to the VIN and GND pins, respectively.
3. This board is set up for automatic startup. Pull EN low to shut down the MP3202.
4. To use burst mode brightness control, drive EN with a PWM signal.

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