

DESCRIPTION

The EV2303ADN-01A is an evaluation board for the MP2303A, a monolithic synchronous buck regulator.

EV2303ADN evaluation board is a fully assembled and tested PCB. It generates a +3.3V output voltage at load currents up to 3A from a 4.7V to 28V input voltage range. An adjustable soft-start prevents inrush current at turn-on.

The MP2303A switches at 360kHz and achieve up to 95% efficiency with the supplied components.

ELECTRICAL SPECIFICATIONS

Parameter	Symbol	Value	Units
Input Voltage	V_{IN}	4.7 – 28	V
Output Voltage	V_{OUT}	3.3	V
Output Current	I_{OUT}	3	A

FEATURES

- 3A Output Current
- Wide 4.7V to 28V Operating Input Range
- 3.3V Output

APPLICATIONS

- Distributed Power Systems
- Pre-Regulator for Linear Regulators
- Notebook Computers

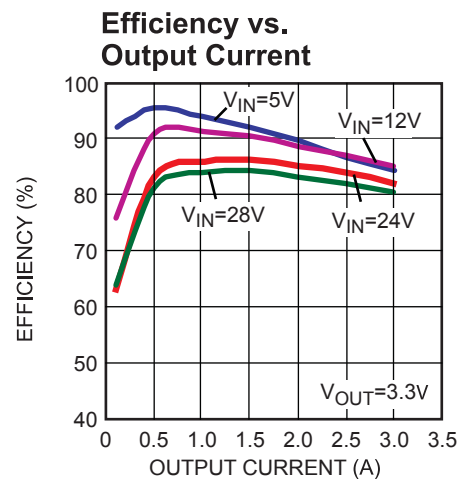
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EV2303ADN-01A EVALUATION BOARD



(L x W x H) 2.0" x 1.5" x 0.5"
(5.0cm x 3.8 x 1.2cm)

Board Number	MPS IC Number
EV2303ADN-01A	MP2303A



PRINTED CIRCUIT BOARD LAYOUT

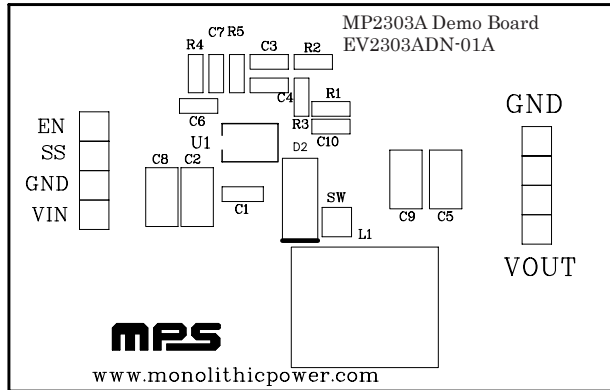


Figure 1—Top Silk Layer

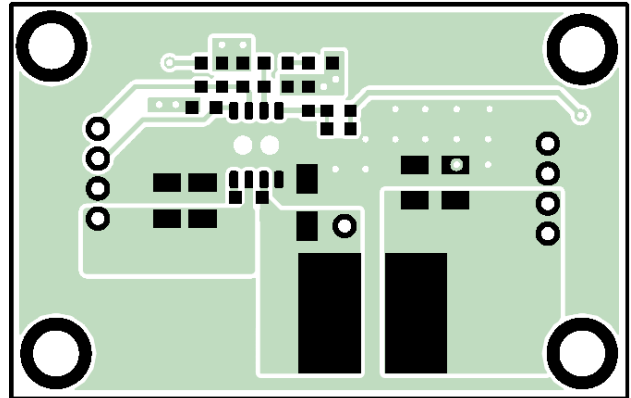


Figure 2—Top Layer

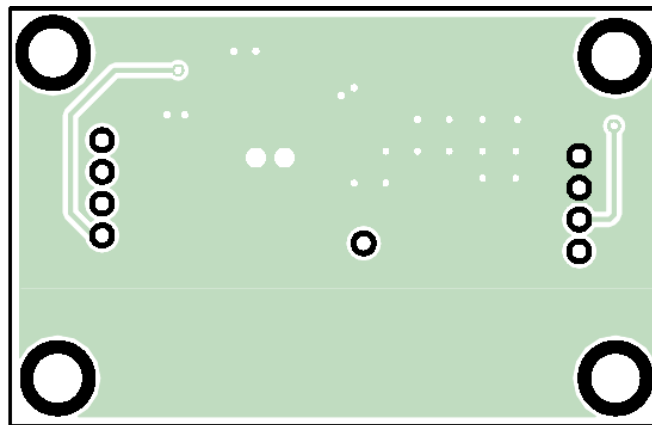


Figure 3—Bottom Layer

QUICK START GUIDE

The output voltage of this board is preset to 3.3V. The board is laid out to accommodate most commonly used inductors and output capacitors.

1. Connect the positive and negative ends of the load to the VOUT and GND pins, respectively.
2. Connect the input voltage ($4.7V \leq V_{IN} \leq 28V$) and input ground to the VIN and GND pins, respectively.
3. To turn on the MP2303A, apply an enable voltage V_{EN} to the EN pin. Drive EN higher than 1.3V to turn on the MP2303A.
4. The output voltage V_{OUT} can be programmed by varying R1. Calculate the new value using the formula:

$$R1 = R3 \times \left(\frac{V_{OUT}}{V_{FB}} - 1 \right)$$

Where $V_{FB} = 0.8V$ and $R3 = 10k\Omega$.

For example, for $V_{OUT} = 3.3V$:

$$R1 = R3 \times \left(\frac{V_{OUT}}{V_{FB}} - 1 \right) = 10k\Omega \times \left(\frac{3.3}{0.8} - 1 \right) = 31.25k\Omega$$

for the closest standard 1% value

RECOMMENDED COMPONENTS FOR STANDARD OUTPUT VOLTAGES

This board is programmed for most standard output voltages. The following table lists recommended components for some standard output voltages

Table 1—Recommended Components for Standard Output Voltages

V_{OUT}	R1 (1%)	R3 (1%)
0.8V	0	10k Ω
1.2V	4.99k Ω	10k Ω
1.8V	12.4k Ω	10k Ω
2.5V	21.5k Ω	10k Ω
3.3V	31.6k Ω	10k Ω
5.0V	52.3k Ω	10k Ω

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