



EV04W0503A-3-Y-00A

0.4W, Regulated, 3kVDC
Isolated DC-DC Converter
Evaluation Board

PRELIMINARY SPECIFICATIONS SUBJECT TO CHANGE

DESCRIPTION

The EV04W0503A-3-Y-00A is an evaluation board designed to demonstrate the capabilities of the MID04W0503AGY-3R, a regulated, isolated DC to DC converter.

The MID04W0503AGY-3R integrated power MOS, transformer and feedback circuit all in one chip, supporting insulation voltage with

3kVDC. This converter provides small size and higher reliability operation comparing to traditional isolated power module.

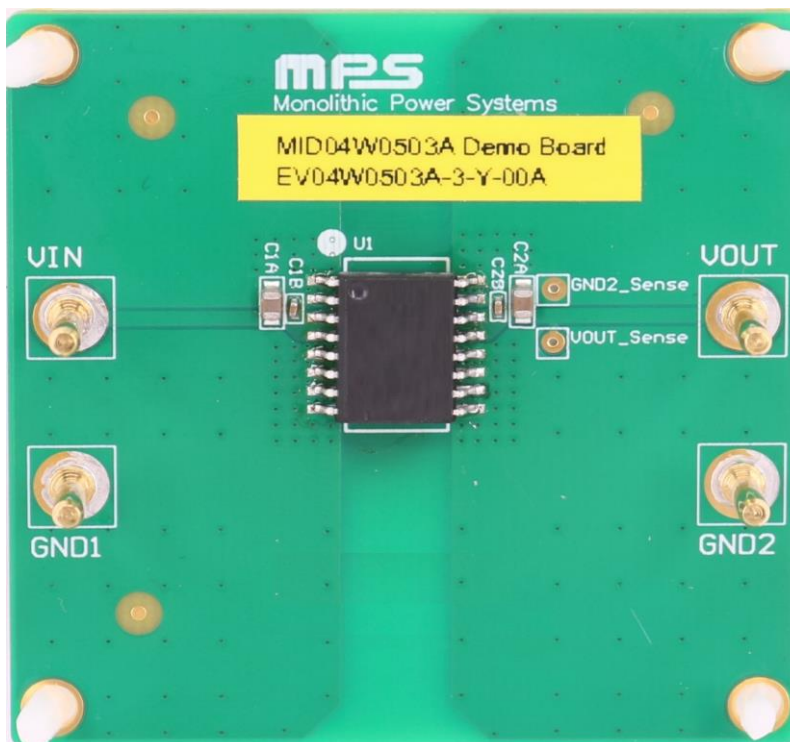
It is recommended to read the datasheet for the MID04W0503A prior to making any changes to the EV04W0503A-3-Y-00A.

PERFORMANCE SUMMARY

Specifications are at $T_A = 25^\circ\text{C}$, unless otherwise noted.

Parameters	Conditions	Value
Input voltage (V_{IN}) range		4.5V to 5.5V
Output voltage (V_{OUT})	$V_{IN} = 4.5\text{V to } 5.5\text{V}$, $I_{OUT} = 0\text{A to } 0.12\text{A}$	3.3V
Maximum output current (I_{OUT})	$V_{IN} = 4.5\text{V to } 5.5\text{V}$	0.12A

EVALUATION BOARD



LxWxH (5.1cmx5.1cmx0.3cm)
2 Layers, 1oz/1oz

Board Number	MPS IC Number
EV04W0503A-3-Y-00A	MID04W0503AGY-3R-Z



QUICK START GUIDE

1. Preset the power supply (V_{IN}) between 4.5V and 5.5V, then turn off the power supply.
2. Connect the power supply terminals to:
 - a. Positive (+): V_{IN}
 - b. Negative (-): GND1
3. Connect the load terminals to:
 - a. Positive (+): V_{OUT}
 - b. Negative (-): GND2
4. After making the connections, turn on the power supply. The board should automatically start up.

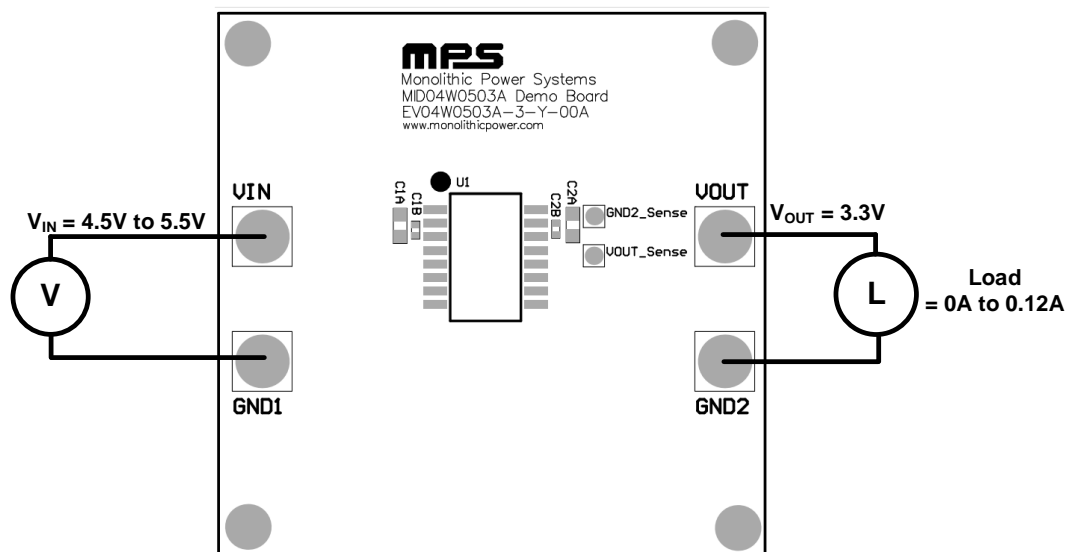


Figure 1: Measurement Equipment Set-Up



EVALUATION BOARD SCHEMATIC

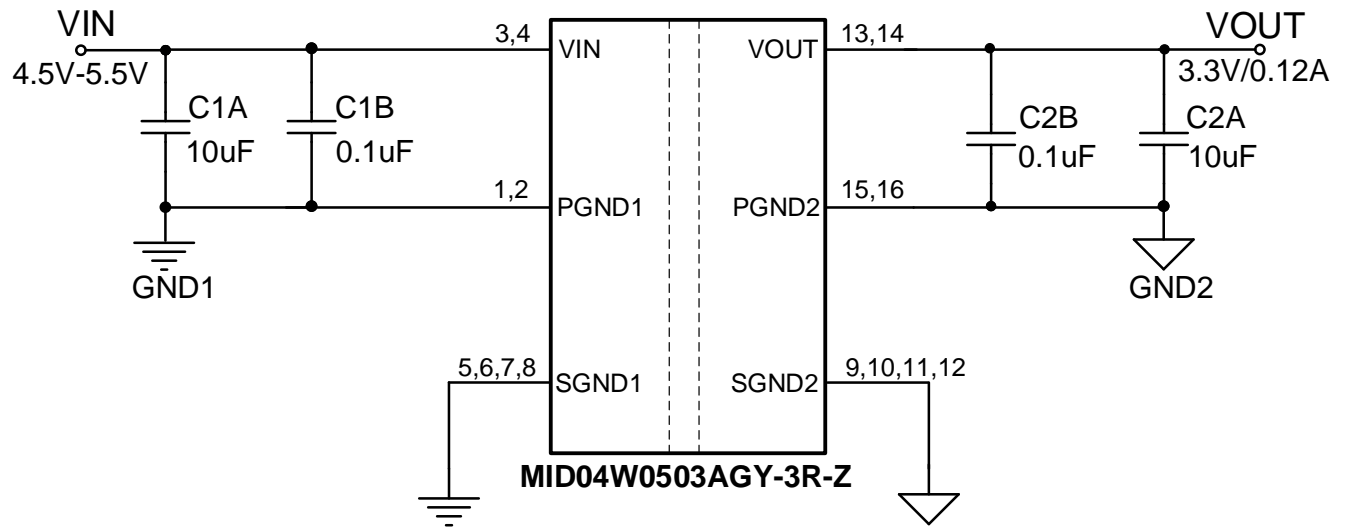


Figure 2: Evaluation Board Schematic

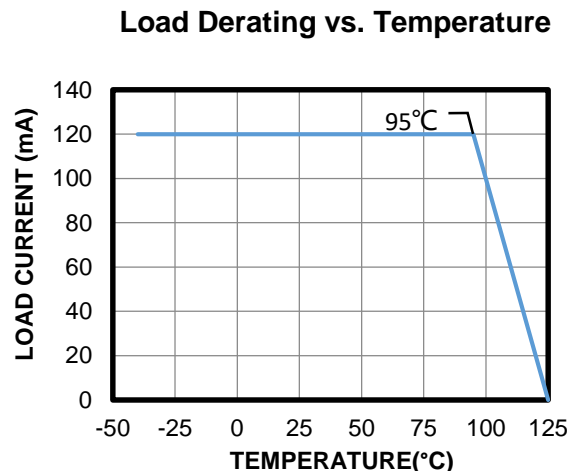
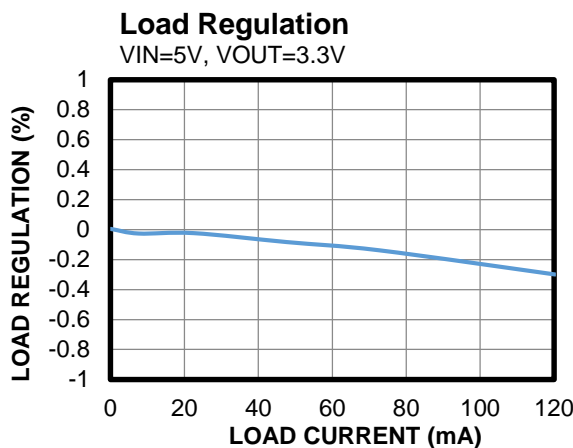
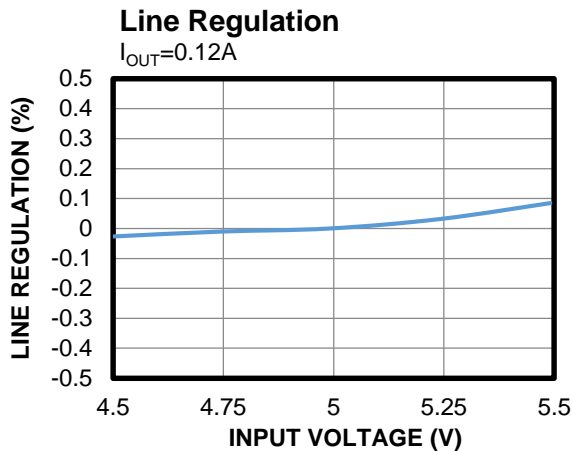
**EV04W0503A-3-Y-00A BILL OF MATERIALS**

Qty	Ref	Value	Description	Package	Manufacturer	Manufacturer PN
2	C1A,C2A	10 μ F	Ceramic Cap.,10V,X5R	0805	TDK	C2012X5R1A106KT000E
2	C2A,C2B	100nF	Ceramic Cap.,16V,X7R	0402	SAMSUNG	CL05B104KO5NNNC
1	U1	MID04W05 03A	Isolated DCDC Converter	SOICW-16	MPS	MID04W0503AGY-3R-Z



EVB TEST RESULTS

Performance curves and waveforms are tested on the evaluation board. $V_{IN} = 5V$, $V_{OUT} = 3.3V$, $T_A = 25^\circ C$, $I_{OUT} = 0A$ to $0.12A$, $C_{IN} = C_{OUT} = 10\mu F$, unless otherwise noted.



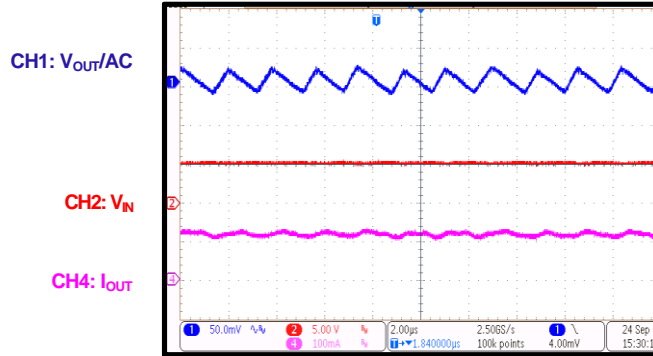


EVB TEST RESULTS (continued)

Performance curves and waveforms are tested on the evaluation board. $V_{IN} = 5V$, $V_{OUT} = 3.3V$, $T_A = 25^{\circ}C$, $I_{OUT} = 0A$ to $0.12A$, $C_{IN} = C_{OUT} = 10\mu F$, unless otherwise noted.

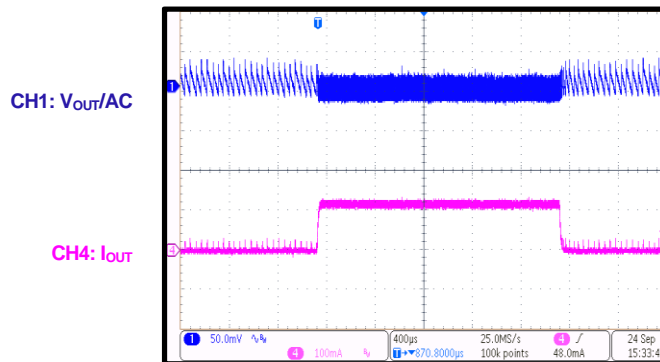
Output Ripple

$I_{OUT} = 0.12A$

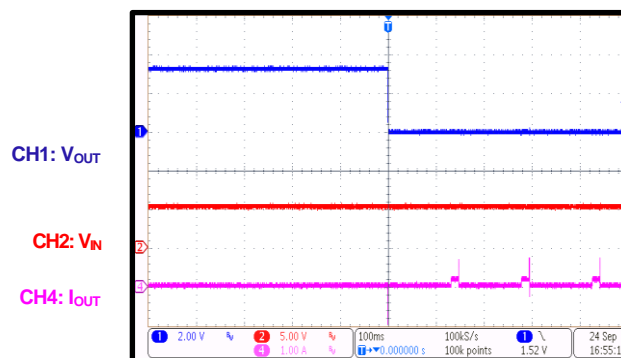


Load Transient

$I_{OUT} = 0A$ to $0.12A$



SCP Entry





PCB LAYOUT

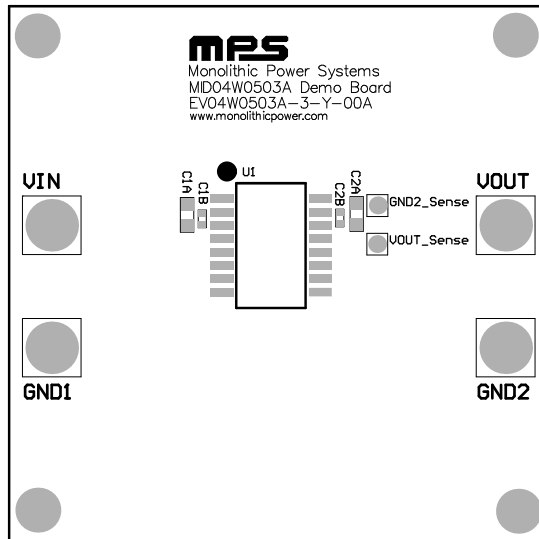


Figure 1: Top Silk Layer

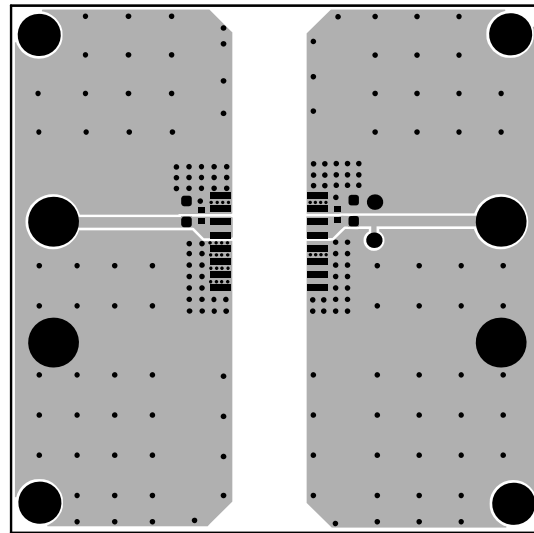


Figure 2: Top Layer

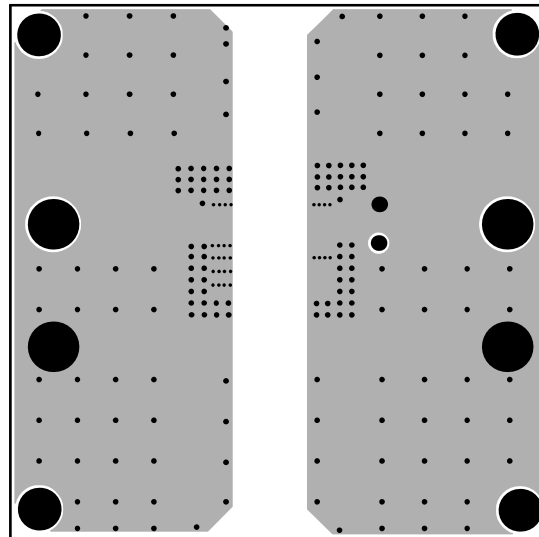


Figure 3: Bottom Layer

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