

## Evaluation Board for High Voltage ATLSxA218D Series Laser Drivers



Figure 1. Physical Photo of ATLS218EV1.0

### FEATURES

- Versatile Interface for all necessary measurement nodes
- Easy to use

### APPLICATION

Evaluating laser driver controller ATLSxA218D.

### INTRODUCTION

The ATLSxA218D is a series of high efficiency constant current laser drivers for driving one or multiple laser diode arrays. It is shielded in metal case, emits zero EMI (Electro-Magnetic Interference), and is packaged in small DIP package. The laser driver series includes ATLS15A218D and other laser drivers under development.

The evaluation board introduced by this application note, ATLS218EV1.0, is designed for evaluating these laser drivers conveniently.

It is recommended to read this application note with the ATLSxA218D datasheets which provides more detail information about the specifications and application guidelines for the laser drivers.

### BOARD DESCRIPTION

The ATLS218EV1.0 Evaluation Board is consisted of a complete application circuit for configuring an ATLSxA218D laser driver. It can set the output current and the output current limit by 2 POTs (Potentiometers), W1 and

W2 respectively. The physical photo of ATLS218EV1.0 is shown in Figure 1.

On the 4 edges of the board, numerous connection pads and terminal connectors are provided for making connections with external components and instruments. The connections can be made by either soldering wires or clipping by alligator clips.

There are 3 terminal blocks also located on the left, top and the right side of the board, whose connectors are for the same nodes of the solder pads.

In the upper middle of the board, there is an LED. When the controller works properly, it will be lit up.

The Figure 2 shows Evaluation Board in use.

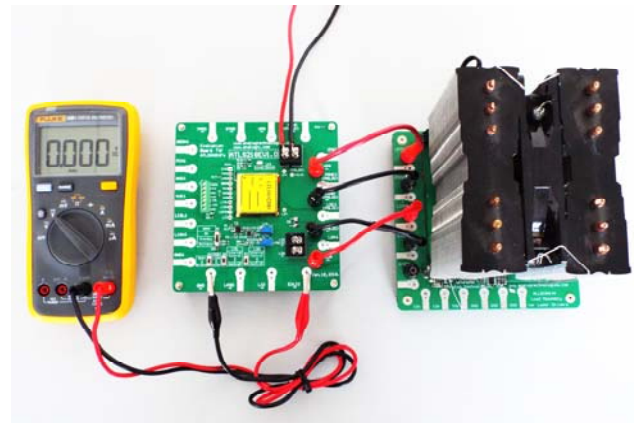


Figure 2. Wirings for Eval. Board to a Dummy Laser Load

Note: The maximum current capacity of this dummy laser load, ALLD10A14V, is 10A; and the maximum voltage is 14V.

A digital multi-meter can be used for monitoring the actual current going through the load. There are 2 ways to do so:

- A. To measure the LIO pin voltage from the controller.
- B. To measure the EVLIO port voltage which is the output voltage from an on-board current sensing amplifier. The relationship between the load current and the EVLIO is governed by this formula:

$$V_{EVLIO} (V) = 0.2 \times I_{OUT} (A)$$

When the current is 10A, the output voltage is 2V.

When knowing the output voltage, the current can be derived by this formula:

$$I_{OUT} (A) = 5 \times V_{EVLIO} (V)$$



OPERATION STEPS

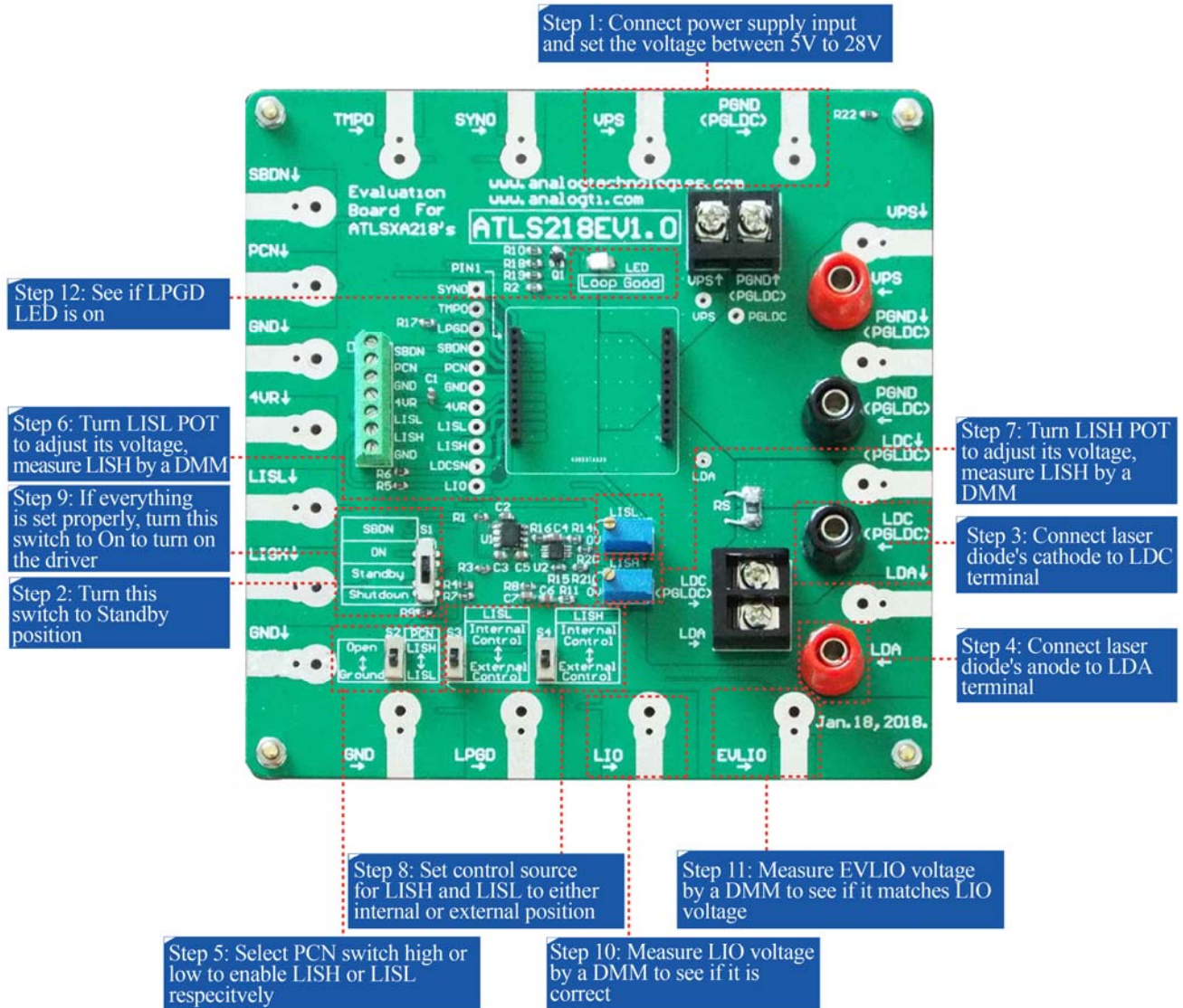


Figure 3. Operation Steps



The silkscreen of the evaluation board is shown in Figure 4 with other layers, including top copper, top solder mask, and multilayer (vias and holes).

There is no component on the bottom side of the board, so that is no bottom silkscreen layer image. Figure 6 shows the top layers without the silkscreen. Figure 7 shows the bottom layers, including bottom copper, bottom solder mask, and multilayer.

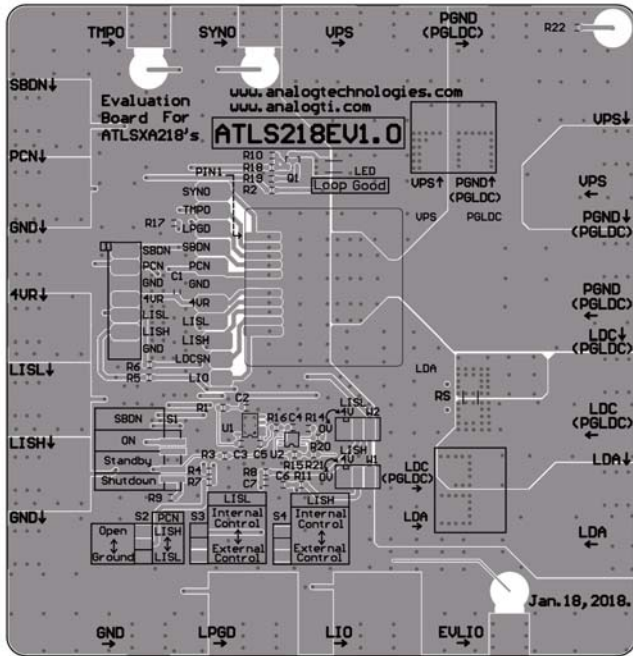


Figure 4. Top Silkscreen with other Top Layers

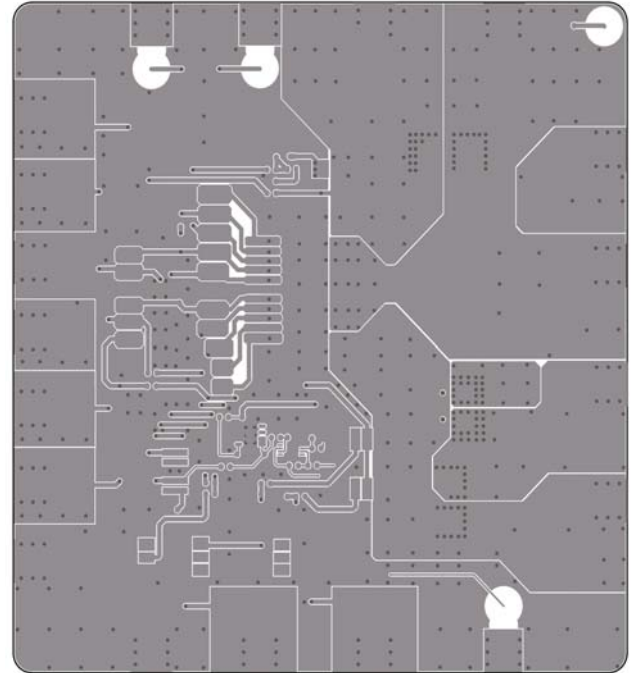


Figure 6. Top Layers without Top Silkscreen

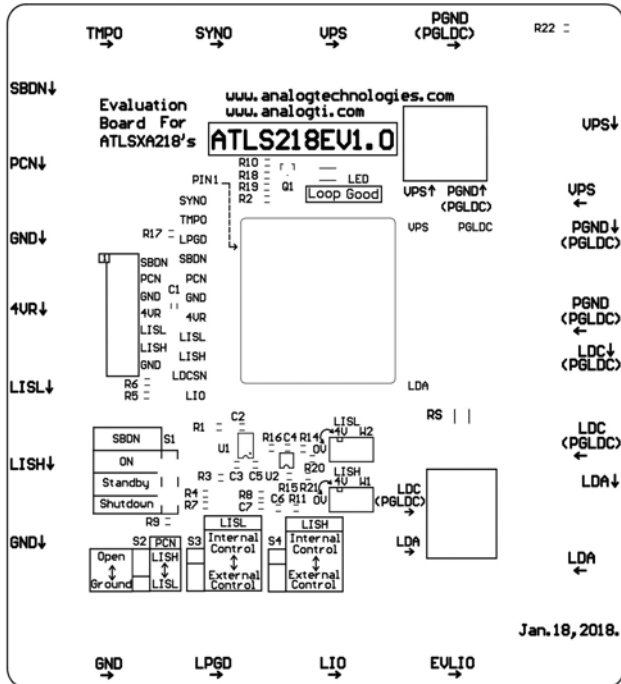


Figure 5. Top Silkscreen only

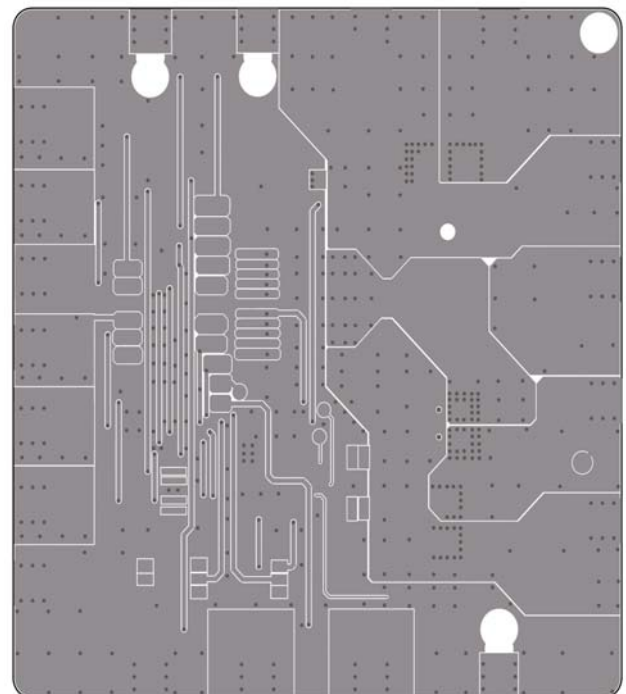


Figure 7. Bottom Layers





ORDERING INFORMATION

Part #	Description	1 – 9	≥10
ATLS218EV1.0	Evaluation board for laser drivers ATLS8A218D, ATLS10A218D and ATLS15A218D.	\$88.0	\$82.0

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