

### 1.0 Scope

This bulletin provides instructions for the proper use of the InPhenix IPEVM1010 SOA Evaluation Board when measuring the optical performance of an InPhenix Semiconductor Optical Amplifier (SOA) housed in a 14-pin Butterfly package.

### 2.0 Required Tools and Materials

1. IPEVM1010, SOA Evaluation Board.
2. SOA in a 14-pin Butterfly package.
3. +5V DC power supply rated at 2 Amp or higher.
4. Optional instruments that may be required depending on the parameters to evaluate:
  - a. Optical Spectrum Analyzer (OSA)
  - b. Optical Power Meter
  - c. Optical light source
  - d. Optical attenuator

### 3.0 Precautions



1. Do not install the SOA onto the evaluation board before reading through all the instructions below.
2. Lasers can cause permanent eye damage. DO NOT look directly into the fiber facet when operating the SOA.
3. SOAs are ESD sensitive devices. Handle and operate the SOAs with care at an ESD rated workstation.
4. SOAs may be damaged if the input power into the SOA is too high. Keep the input power to the SOA below 15dBm.
5. An SOA is a traveling wave type optical amplifier. Any reflection at the input and/or output facets will affect performance. Use an APC connector for making connections in the optical path whenever possible. If a connector is not available use a matching gel or other liquid to reduce reflection from the facet.
6. Do not operate the SOA at a current higher than its maximum rating indicated in the devices datasheet.

## 4.0 Operation

### 4.1 Installation

1. **Do not install the SOA onto the evaluation board before reading through all the instructions below.**
2. Make sure the power supply is +5VDC with a noise ripple less than 50mV before connecting the evaluation board.
3. Turn off the power supply and connect it to the evaluation board as shown in Figure 1.0.
4. Turn on the power supply. The display on the evaluation board should read 0. If the reading is higher use the “DOWN” button to reset it to 0.
5. Turn off the power supply. Install the SOA device onto the evaluation board by lining up the wires with the sockets and carefully clamping them in place. Make sure the SOA electrodes make good contact with the pins on the butterfly type sockets and the SOA is in the correct orientation.

### 4.2 Test Operation

1. Turn on the power.
  - a. A green light indicates that the Evaluation Board is operating normally. Proceed to step 6 below.
  - b. If the red light is on, check to see if the device is in good contact with the sockets. If the problem is not resolved, please contact our Sales Organization for assistance.

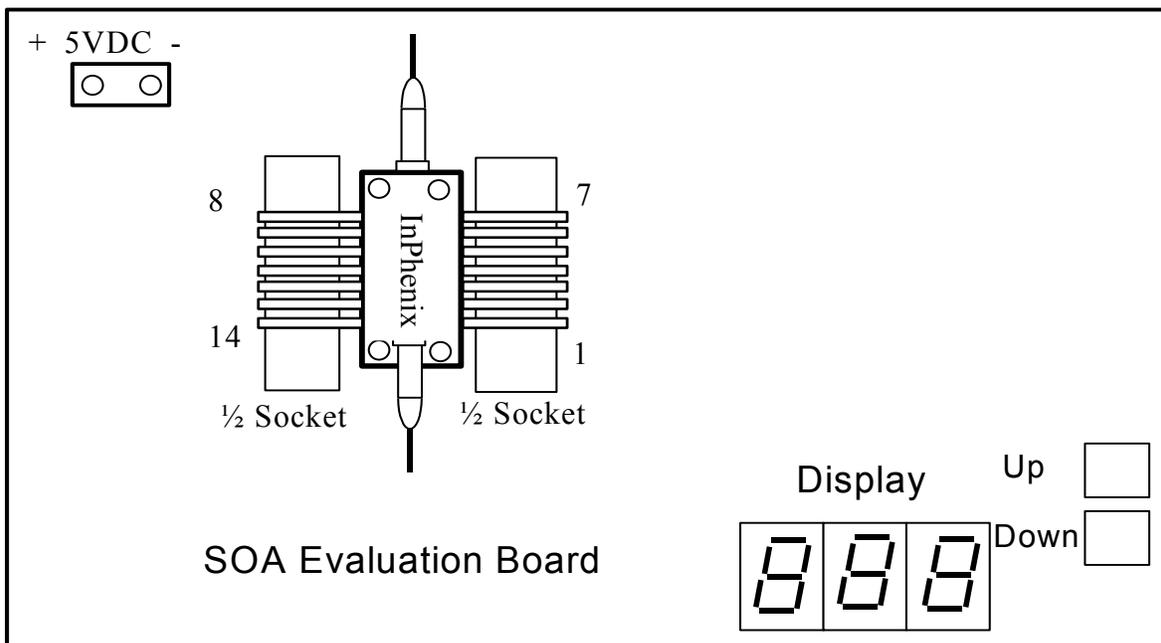


Figure 1.0

2. Press the “UP” and “DOWN” buttons next to the display to increase or decrease the drive current. The LED display shows the drive current applied to the device.
3. Connect the SOA to the test instruments or the optical path for test.

## 4.3 Shut Down

1. After the test is complete, decrease the current to 0mA by pressing the “DOWN” button.
2. Turn off the power and detach the SOA from the board. Put an ESD protective steel shunt clamp over the wire leads. Place the SOA into an ESD package for storage.
3. Detach the evaluation board from the DC power supply and store it in a safe place.