

Infrared Laser for Industrial, Transportation, Automotive Applications

Pulse Laser Demonstration Board 1 Channel 120W, 905nm

1-channel reference design



LiDAR Team | June 2022

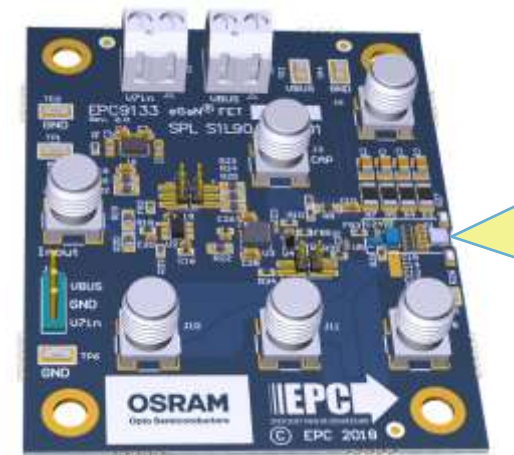
SMT 1 Channel Pulse Laser Reference Design

Key Facts

In cooperation with EPC Systems, reference design for ams OSRAM 1 channel SMT pulse laser:
SPL S1L90A_3 A01

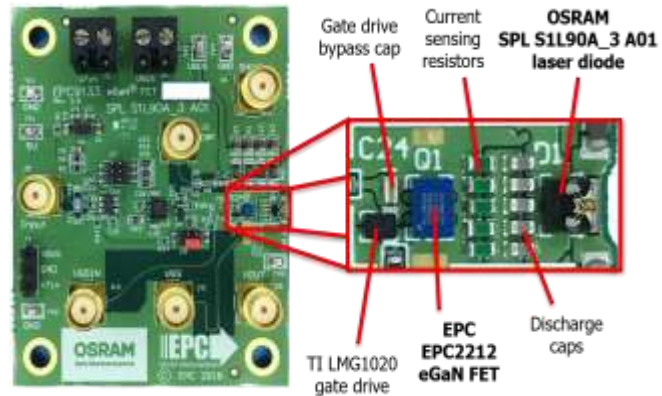
Key facts of Pulse Laser Demo

- Peak laser current: 40A for $P_{opt} = 120W$, and higher currents are possible
- pulse width $\sim 2ns$ (FWHM)
- Option to measure the laser current
- easy to use
- V_{laser} max = 80V



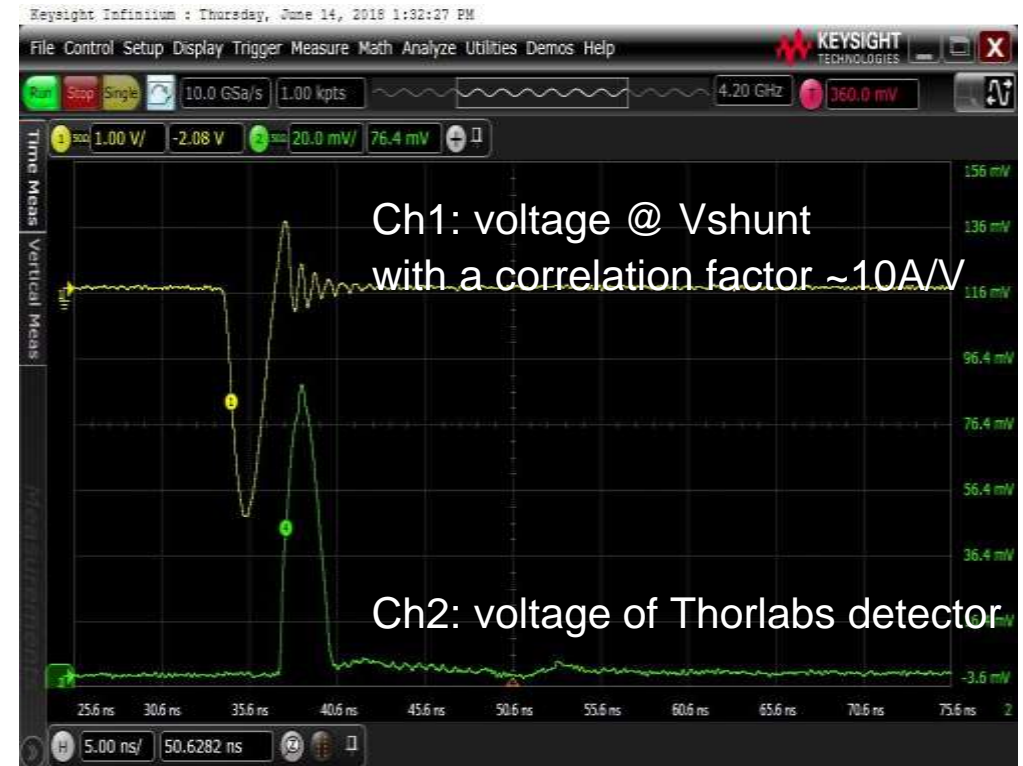
Schematic of LiDAR Pulse Laser Demo

SMT 1 Channel Pulse Laser Reference Design Details



Board detail view

Pulse shape for $V_{bus} = 40V$



Measurement results

SMT 1 Channel Pulse Laser Reference Design

Contact



WARNING

THIS BOARD CAN DRIVE LASER DIODES TO GENERATE HIGH PEAK POWER OPTICAL PULSES. SUCH PULSES CAN CREATE PERMANENT VISION DAMAGE.

LASER DIODES CAN EMIT INFRARED (IR) LIGHT WHICH CAN CAUSE PERMANENT VISION DAMAGE.

FOLLOW PROPER LASER SAFETY PROCEDURES TO PREVENT VISION DAMAGE.

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LiDAR dToF-Driver

Evaluation Driver Kit

1 Channel Reference Design

Designed in cooperation with Efficient Power Conversion (EPC)

- **Key Components Utilized**
 - OSRAM OS: SPL S1L90A_3 A01 IR Pulse Laser
 - EPC: EPC2212
- **Key Performance Metrics**
 - Peak laser current of 40A
 - Optical output of 120W
 - Pulse width ~2ns (FWHM)
 - Option to measure the laser current
 - $V_{\text{laser max}} = 80V$



Light Output

OSRAM DEMO LiDAR 120W 1ch SMT Laser Driver board

1 Channel LiDAR
Evaluation Board, EPC
Q65113A3439

ams OSRAM Group



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LASER RADIATION