

## 1535nm, High Repetition-Rate Pulsed Laser Module

### 1535nm High Pulse Energy Semiconductor Laser Diode Module for Laser Range Finding Applications

Microchip Laser Module; Passively Q-Switched, Er:Glass



### 1535nm High Rep-Rate Laser Module

- ◇ 1535nm Short-Duration Pulsed Output
- ◇ Rugged Design, Wide Operating Temperature Range
- ◇ Passively Q-Switched, Er:Glass Structure
- ◇ Eye-Safe for Rangefinders, LIDAR, Obstacle Avoidance Radar, Meteorological Radar
- ◇ Three Models Available:
  - ◇ R1535-1-5-40-F1: 40  $\mu$ J, 1 kHz Rep Rate
  - ◇ R1535-2.5-5-20-F1: 20  $\mu$ J, 2.5 kHz Rep Rate
  - ◇ R1535-5-6-10-F1: 10  $\mu$ J, 5 kHz Rep Rate

Semiconductor Laser Sources and Control Instruments



### 1535nm High Repetition-Rate Pulsed Laser Module

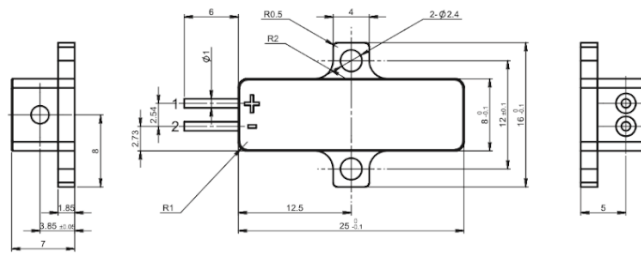
These super-compact high repetition-rate pulsed diode laser modules are perfectly suited to LIDAR, range finding, and meteorological radar applications. The module is a passively Q-switched Er:Glass technology, which delivers very short pulse duration and high stability output over a wide temperature range.

### Eye-Safe Wavelength Lasers

Lasers with emission wavelengths longer than 1.4 μm are often called “eye-safe” because light in that wavelength range is strongly absorbed in the eye’s cornea and lens, and therefore cannot reach the significantly more sensitive retina. The degree to which these lasers are truly “eye-safe” depends on the emission wavelength and also on the power level and the optical intensity which can reach the eye. If used improperly these lasers can pose a hazard: it is essential that users take all necessary measures to ensure the safety of the laser operator and bystanders.

The eye-safe characteristic of these 1535nm lasers is particularly important when light needs to be transmitted over substantial distances in open air, such as laser rangefinders, LIDAR, and free-space optical communications.

### Mechanical Drawings (in mm)



25x8x7mm F2 Drawing

### Pin Descriptions

Pin	Function
1	Laser (+)
2	Laser (-)





## SPECIFICATIONS

### OPTICAL AND ELECTRICAL SPECIFICATIONS - R1535-1-5-40-F1

- Output Wavelength: 1535nm
- Pulse Energy: 40 $\mu$ J
- Repetition Rate: 1 kHz
- Pulse Width: < 5 ns
- Operating Current: 5 A
- Operating Voltage: 2 V
- Beam Diameter: 0.3 mm
- Full Beam Divergence: < 16 mrad
- Beam Profile: TEM<sub>00</sub>

### OPTICAL SPECIFICATIONS - R1535-2.5-5-20-F1

- Pulse Energy: 20 $\mu$ J
- Repetition Rate: 2.5 kHz
- Pulse Width: < 5 ns

### OPTICAL SPECIFICATIONS - R1535-5-6-10-F1

- Pulse Energy: 10 $\mu$ J
- Repetition Rate: 5 kHz
- Pulse Width: < 6 ns

### PACKAGE SPECIFICATIONS

- Weight: 10 g
- Dimensions: 21 mm x 8 mm x 7 mm
- Operating Temperature: -40°C – 65°C
- Storage Temperature: -55°C – 80°C



**PRODUCT WARRANTY:**

This product is sold with a full one year warranty. The warranty includes all parts and labor. It is warranted to be free from defects in material and workmanship for a period of one year from the date of shipment. The warranty does not include damage to the product due to customer mishandling or use of the product outside of its specified maximum ratings.

**INSTALLATION SUPPORT OR TECHNICAL SUPPORT FOR THIS PRODUCT:**

**800-887-5065 extension 1**  
**[contact@laserdiodesource.com](mailto:contact@laserdiodesource.com)**



**LASER DIODE**  
TECHNOLOGIES

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