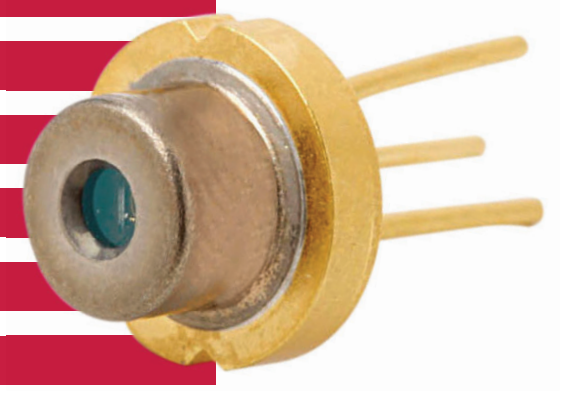
Advanced Photonix
A Division of OSI Optoelectronics

EMITTERS
Laser Diode Series



# Single Mode Pulsed Laser Diode
## SCW Series

### 1310nm, 1550nm and 1625nm Wavelengths Pulsed Laser Diodes

Advanced Photonix's High Power SCW laser modules are designed to meet the performance demands of the optical test equipment. The high peak optical power of SCW Series serve 1310nm through 1625nm wavelengths and are available in fully hermetically sealed packages.

## Applications

- OTDR Instruments
- Spectroscopy
- Photon Counting
- Optical and LOS Sensors
- Talk Sets

## Features

- 300mW and 350mW Optical Power (Pulsed)
- RoHS Compliant

Warning: Diode laser emissions can be hazardous to eyesight. Standard aversion responses, such as blinking or turning away, are insufficient protection against the potential radiation risks of these devices. Do not directly view the laser aperture during operation. Lasers at 1310nm are classified as IEC Class 3R, while lasers with higher wavelengths fall under Class 1 when used within their specified conditions.

## Absolute Maximum Ratings at $T_A$=25 ºC

| Parameter | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Operating Temperature Range | $T_{OP}$ | -30 | 70 | ºC |
| Storage Temperature Range | $T_{STG}$ | -40 | 85 | ºC |
| Forward Current | $I_F$ | - | 1000 | mA |
| Package | | TO56 | | |

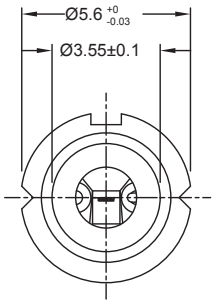
## Typical Electro-Optical Specifications at $T_A$=25°C, PW = 10µs, D/C=1%

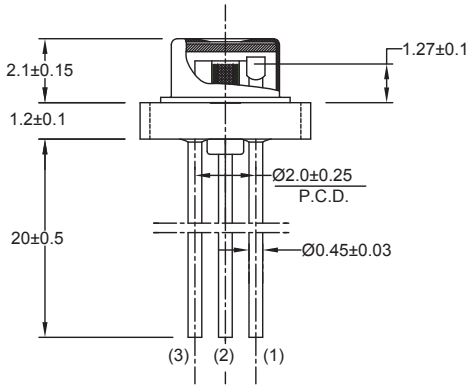
| Parameter | Symbol | SCW 1337-350R | | | SCW 1537-300R | | | SCW 1637-250R | | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max | |
| Optical Power | P | 350 | - | - | 300 | - | - | 250 | - | - | mW |
| Threshold Current | $I_{TH}$ | - | 30 | - | - | 35 | - | - | 45 | - | mA |
| Forward Voltage | $V_F$ | - | 3 | - | - | 3 | - | - | 3 | - | V |
| Center Wavelength | λ | - | 1310 | - | - | 1550 | - | - | 1625 | - | nm |
| Spectral Width | Δλ | - | - | 8 | - | - | 10 | - | - | 12 | nm |

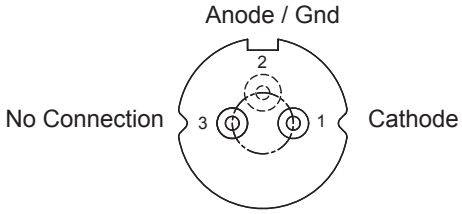
Reliability data available upon request

## Mechanical Specification

Units are in mm



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# General Care and Handling Instructions

**Photodiodes:**

Handling and Storage

- Handle Photodiodes gently to prevent damage.
- Avoid exposing Photodiodes to temperatures exceeding the storage temperature rating of the device.
- Maintain a non-condensing environment for optimum performance and lifetime.

Cleaning

- Gently clean the glass (borosilicate or quartz window) using a 50/50 mixture of Methanol and isopropyl alcohol and a soft, optical-grade pad.

Special Considerations for Plastic or Epoxy Encapsulated Photodiodes

- Protect from intense light sources such as direct sunlight.
- Avoid exposure to harsh chemicals like THINNERS, ACETONE, and TRICHLOROETHYLENE.
- Cleaning with a 50/50 mixture of Methanol and isopropyl alcohol (IPA) is recommended. Cleaning in an ultrasonic bath is generally not recommended.

**CdS Photocells:**

Handling and Storage

- Handle CdS Photocells gently to prevent damage.
- Avoid exposing CdS Photocells to temperatures exceeding the storage temperature rating of the device.
- Maintain a non-condensing environment for optimum performance and lifetime.

Cleaning

- Gently clean the glass or plastic covering using a 50/50
- mixture of Methanol and isopropyl alcohol and a soft, optical-grade pad.

Special Considerations

- DO NOT use Vapor Phase Soldering or Reflow Soldering for CdS components.

**Optocouplers and LEDs:**

Handling and Storage

- Handle Optocouplers and LEDs gently to prevent damage.
- Avoid exposing the devices to temperatures exceeding the storage temperature rating of the device.
- Maintain a non-condensing environment for optimum performance and lifetime.

Cleaning

- For plastic molded devices, cleaning with a 50/50 mixture of Methanol and isopropyl alcohol is recommended. Cleaning in an ultrasonic bath is generally not recommended.

Special Considerations

- Avoid exposing plastic molded devices or epoxy glob top devices to harsh chemicals like THINNERS, ACETONE, and TRICHLOROETHYLENE.

**Electrostatic Discharge (ESD) Sensitivity:**

- All devices are considered ESD-sensitive. They are shipped in ESD protective packaging. When unpacking and using these products, anti-ESD precautions should be observed.

**Lead Trimming and Bending:**

- Standard lead trimming after soldering is an acceptable practice; however, do not attempt to bend or modify the leads incorrectly, as it can damage the glass feed-through or the plastic encapsulant.

**Soldering Instructions:**

- Use a soldering iron with a tip temperature of 300°C max.
- Consult with your preferred solder manufacturer to determine a solder alloy and flux combination, as well as the reflow profile appropriate for your application.

**General Precautions for all Devices**

1. **Moisture Prevention:**
   Ensure devices are stored in a dry environment to prevent moisture ingress, which can cause damage during soldering. Refer to J-STD-20 for guidance on proper baking procedures to prevent moisture related damage.
2. **Lead Splaying:**
   If required, carefully splay the leads of the devices according to the specific application needs. Be cautious when splaying leads, as improper techniques may damage the device. Consult technical support or device datasheets for guidance on lead splaying.
3. **Mechanical Stress:**
   Handle devices with care throughout the installation process to prevent damage.
4. **Circuit Protection and Layout:**
   Optimize the circuit design and layout to ensure proper functioning and prevent damage to the devices. Include appropriate protection measures like ESD protection diodes, current-limiting resistors, and voltage regulation.
5. **After-Sale Support:**
   For troubleshooting and device-specific inquiries, please consult with our technical support team. They can offer valuable guidance and suggestions on handling, operation, and application-related questions. To reach them, please contact the Advanced Photonix Applications group at Techsupport@advancedphotonix.com.

# Legal Disclaimer



RoHS COMPLIANT