

Laser diode four-pin



AI Overview

A 4-pin laser diode typically includes connections for the laser anode, laser cathode, photodiode anode, and photodiode cathode, allowing both laser operation and feedback control.

Pin Functions

Laser Anode (+) and Cathode (–) These two pins supply the electrical current to the laser diode itself. The anode is connected to the positive voltage, and the cathode to the negative or ground. Proper current regulation is critical to prevent damage, as laser diodes are sensitive to overcurrent and overheating ().

Photodiode Anode (+) and Cathode (–) The additional two pins are for an integrated photodiode, which monitors the laser output. This photodiode provides feedback to a driver circuit to maintain stable laser power. The photodiode is usually reverse-biased and generates a current proportional to the emitted laser light, enabling precise control of the laser's intensity ().

Practical Considerations

Pin Identification: Pin layouts can vary between manufacturers, so always consult the datasheet. Some 4-pin diodes may have the photodiode pins labeled or marked with an arrow indicating light detection ().

Current Limiting: Use a laser diode driver with current regulation to prevent burn-out. The photodiode feedback helps maintain constant output even if temperature or supply voltage fluctuates ().

Mounting and Heat Management: Laser diodes are sensitive to heat. Proper mounting on a heat-conductive substrate like alumina or BeO is recommended to ensure longevity ().

Differences from 3-Pin Diodes A standard 3-pin laser diode usually combines the photodiode cathode with the laser cathode, leaving only three connections. The 4-pin configuration separates the photodiode, allowing more precise feedback control and better stability for high-power or sensitive applications (). Understanding these four pins ensures safe operation, accurate power control, and longer diode life in both laboratory and practical electronics applications.

Article Content

taxial-layer 1550 nm Pulsed Semiconductor Lasers High Power Laser-Diode ...

Photon Detection PVG Series of Single-epi taxial-layer 1550 nm Pulsed Semiconductor Lasers High Power Laser-Diode Family for Eye-Safe Range Finding Excelitas Technologies" PVG series of high

Products

iC-WKP CW Laser Diode Driver, Optimized for P-Type Laser Diodes iC-WT 3-Channel Photodiode Amplifier-Comparator with LED Controller iC149 ns-Pulse

12 Best 40W+ Diode Laser Engravers for Cutting

Discover the best 40W+ diode laser engravers for cutting wood in 2026. We tested 12 machines for real cutting performance, safety, and value.

Laser Diode 4 Pin: High-Performance Options

Find top laser diode 4 pin products with 808nm wavelength, TO-Can package, and low threshold current. Click to explore verified suppliers, competitive pricing, and customization options

Laser Diodes | IR & High Power Laser Diode | RS AU

Laser Diodes Laser diodes are semiconductor devices which closely resemble an LED (light emitting diode). Unlike standard LEDs, laser diodes emit coherent, single-wavelength light in a tightly focused

48 Laser Diode Manufacturers in 2026

48 Laser Diode Manufacturers in 2026 This section provides an overview for laser diodes as well as their applications and principles. Also, please take a look at the list of 48 laser diode manufacturers and

Laser Diode Tutorial

The information contained within this tutorial will give all the general information necessary to create an excellent laser diode system. For specific questions about laser diodes, mounts, and drivers please

ams OSRAM V105Q121A-850 Laser Diode 850 nm 3 W, 4-Pin QFN

Laser Type Diode Optical Output Power 3W Number of Pins 4 Packaging Tape and Reel Mount Type Surface Minimum Operating Temperature -20°C Maximum Operating Temperature 85°C Height

Evolase PLD-PS Compact Short-Pulse Laser Diode Driver

What laser diode packages are supported? The PLD-PS supports standard 10-pin and 14-pin butterfly laser modules, with dedicated solder pads matching IEC 61910-1 pinouts.

Laser Diodes: Ø3.8 mm, TO-46, Ø5.6 mm, Ø9 mm, and

These lasers have the same pin spacing as our Ø5.6 mm laser diodes. They are compatible with the LDM56 Laser Diode Mount using the LDM56DJ DPSS Laser

4 Pin Laser Module

When necessary we will further optimize the design of our InP laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet

ams OSRAM V105Q121A-850 Laser Diode 850 nm 3 W, 4-Pin QFN

697-639, ams OSRAM, ams OSRAM V105Q121A-850 Laser Diode 850 nm 3 W, 4-Pin QFN package, Brand ams OSRAM, Peak Wavelength 850nm, Product Type Laser Diode, Laser Type Diode

DFB LASERS

1590nm DFB Laser Diode, 15mW / 60mW Output Power (CW / Pulse), Single Mode & Single Frequency Designed and tested to Telcordia GR-468-CORE highest reliability rating standards Spectral

PCO-7121 Laser Diode Driver Module | BNC

Berkeley Nucleonics PCO-7121 laser diode driver module delivers 5 A to 50 A output current with rise times under 12 ns for diode loads. See specs and options.

Evolase PLD-CW-2000H-ZIF Precision Constant-Current Laser Diode

FAQ What laser diode packages does the PLD-CW-2000H-ZIF support? It is mechanically and electrically optimized for standard 10-pin and 14-pin butterfly housings with integrated thermistors

Evolase PLD-NS-GSS Gain-Switching Suppression Short-Pulse Laser Diode ...

Overview The Evolase PLD-NS-GSS is a compact, high-stability short-pulse laser diode driver engineered for precision seeding applications in ultrafast amplifier systems, time-resolved

4 Pin Laser Diode Pinout – BeamQ Laser

Here is the 4 Pin Laser Diode Pinout for the IR high power 4 Pin Laser. You can't find the 4 pin laser diode pinout wiring diagram for all the 4 Pin Laser Diodes,

RLD65NZN5-00A ROHM | ROHM RLD65NZN5-00A Red Laser Diode

264-909, ROHM, ROHM RLD65NZN5-00A Red Laser Diode 670 nm 10 mW, 3-Pin 5.6 mm CAN package, Brand ROHM, Peak Wavelength 670nm, Product Type Laser Diode, Laser Type Diode

Authentic SHARP GH04580A2G 450nm 80mW TO-18 Blue Laser Diode

The SHARP GH04580A2G TO-18 laser diode adopts low power consumption design with low threshold current to cut the power cost of star sky lamp driving boards and extend the service life of projection

Laser Diode Pinout

The laser diode pinout is the guide for us to how to connect the diodes. It may be different according to the laser diode module number. You can see it the

Contact Us

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