

Laser Diode High Current Company



AI Overview

TRUMPF, Coherent, IPG Photonics, ams-OSRAM, and Lumentum are leading companies in high-current laser diode manufacturing. Leading Manufacturers TRUMPF Photonics specializes in high-power laser diodes and pump modules for industrial, scientific, and security applications. Their products include single-emitter diodes, diode bars, and vertical stacks capable of delivering 100 W to multi-kW power levels, suitable for fiber laser pumping, additive manufacturing, and directed energy applications. TRUMPF offers wavelengths from 790 nm to 1100 nm and provides custom solutions for automotive LiDAR and other high-reliability environments. Coherent, Inc. and IPG Photonics Corporation are global leaders in high-power laser diodes, providing solutions for industrial processing, telecommunications, and medical applications. Their diodes are widely used in material processing, laser welding, and cutting systems. ams-OSRAM AG produces edge-emitting and VCSEL laser diodes for high-power applications, including automotive LiDAR, 3D sensing, and medical imaging. They have recently introduced multi-junction diodes designed for advanced driver-assistance systems (ADAS), expanding their high-current diode portfolio. Lumentum Operations LLC offers high-performance diode lasers and VCSEL arrays for telecom, 3D sensing, and industrial applications. Their focus on vertical integration and R&D ensures reliable high-current laser diode solutions for demanding applications. Thorlabs, Inc. provides semiconductor laser diodes with output powers up to 2 W, along with Quantum Cascade Lasers (QCLs) and Interband Cascade Lasers (ICLs) for mid-infrared applications. While their standard diodes are lower power, Thorlabs also supports high-current applications through custom modules and optoelectronic mounts. Applications of High-Current Laser Diodes High-current laser diodes are used in: Industrial processing: metal cutting, welding, cladding, and additive manufacturing Scientific research: pump sources for fiber and...

Article Content

Top 5 Laser Diode Manufacturers Companies in the World

A laser diode refers to a semiconductor device that generates coherent radiation of high intensity in the infrared (IR) or visible spectrum when a current passes through it.

Laser Diodes | 5,000+ Products from 100+ Manufacturers

Laser Diodes from the leading manufacturers are listed below. Use the filters to narrow down on products based on your requirement. Download datasheets and request quotes for products that you

EPC9156 – 30 V, 10 A High Current Pulsed Laser Diode

The EPC9156 development board is primarily intended to drive laser diodes with short, high current pulses. Capabilities include minimum pulse widths of < 2 ns,

High Power Laser Diodes

Leonardo Electronics US, the leader in high-power laser diodes, designs, develops, and manufactures laser diodes for defense and commercial applications.

Laser Diode Market: Top 10 Companies & Key Players

The laser diode market is highly dynamic, and these 10 companies are leading the charge through relentless innovation, strategic acquisitions, and deep market insights.

Laser Diode Companies

The company operates through two main business segments, namely, Semiconductors and Lamps & Systems. The Semiconductors segments includes semiconductor-based products and

Laser Diodes – semiconductor, gain, index guiding, high power

Laser diodes are semiconductor lasers with a current-carrying p-n junction as the gain medium. They are the most important type of electrically pumped lasers.

Laser Diode Manufacturers

A Laser Diode is a type of semiconductor device that produces coherent light through the process of stimulated emission. The leading manufacturers of Laser Diodes are listed below. Narrow down on

Laser Diodes | Opto Electronics | ROHM Semiconductor

ROHM is the industry's largest producer of laser diodes. The rectilinearity, monochromaticity, coherence, condensation, and pulse response characteristics of laser light allow them to be used in optical discs

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 their company rankings.

Laser Diode Characteristics, Precautions for Use and Drive Circuit ...

Laser diodes (LD) are semiconductor devices that convert electrical energy into high-power optical energy. These devices are currently used in the fields of telecommunications and

High Power Diode Lasers from 1.5 to 45 kW | LASERLINE

High Power Diode Lasers: Systems for the Industry From beam generation to the workpiece, Laserline can offer industry-appropriate high-power diode lasers for material processing.

Hamamatsu Sets Performance Benchmark with 2-kW Laser Diode Bar

HAMAMATSU, Japan, June 10, 2026 — Hamamatsu has achieved world-class quasi-continuous wave (QCW) output of 2 kW from a 1-cm-wide laser diode bar at room temperature, leveraging proprietary

High Power Lasers Diodes (10W ~ 1kW)

Common uses of high power laser diodes include the pumping of the gain medium in solid state lasers, fiber laser pumping and seeding, materials processing,

High-Powered Diode Lasers—New, Bright and Blue

Blue diode laser designs with kW powers are advancing in industrial processing applications, including cutting, welding and foil joining of copper and other high-reflectance materials.

Laser Diode Drivers (Multiple Top Brands)

Laser diode drivers and current sources are specifically designed to provide stable, transient-free power to semiconductor lasers. To get a better understanding of the basic technical fundamentals and how

High Power Laser Diode Drivers

Lumina Power offers a complete series of CW & pulsed laser diode, high power laser diode driver, laser diode controller, and module which is ideal for OEM

High Current, Pulsed, Laser Diode Driver

GENERAL DESCRIPTION The ADP5202 is a single channel, laser diode driver with an integrated, N channel, metal-oxide semiconductor field effect transistor (MOSFET). The driver is able to sink

SHOP Laser Diode Drivers, Pulsed Laser Diode Drivers & TEC

LASER DIODE CONTROL , SHOP Laser Diode Drivers, Pulsed Laser Diode Drivers, TEC Controllers, 600+ Products, Shop from All the Leading Brands: AeroDIODE, Analog Modules, ILX

Intense IR Diode Laser Components | Intenseco

Intense High Power Infra-Red Laser Diode Products High power, high brightness laser diode components and modules for the infrared spectrum. Intense delivers high-level customization tailored

Diode Lasers

IPG diode laser modules and racks take our industry-leading diode performance to the next level of integration. These lasers combine highly reliable IPG single emitter diodes with delivery fibers for

Diode Lasers, Semiconductor Lasers, and Laser Array Modules ...

Intense is revolutionizing the way diode lasers solve evolving optoelectronic needs – from high density individually addressable lasers arrays to high power products. Our patented Quantum Well

High Output Laser Diodes

High Output Laser Diodes Infrared high-power lasers deliver high peak output with pulse lighting, making them Ideal for use as light sources for distance measurement. It is expected to be

Contact Us

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