What is a laser diode manufacturer



Overview

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.

Key Takeaways

A laser diode manufacturer is a company that designs, produces, and supplies semiconductor devices that emit coherent light through stimulated emission, serving industries from telecommunications to medical and industrial applications.

Definition and Function

A laser diode manufacturer specializes in producing laser diodes (LDs), which are semiconductor devices that generate coherent light when an electric current passes through them.

Unlike LE

Ds, laser diodes produce light with very narrow wavelength and amplitude variations, making them suitable for precise applications. These manufacturers handle the entire process, from epitaxial wafer growth to packaging, testing, and integration into modules or systems for end users.

Applications of Laser Diodes

Laser diodes are widely used across multiple sectors: Consumer electronics: Optical drives (CDs, DVDs, BDs), barcode readers, and laser pointers. Telecommunications: Optical fiber communication systems and data transmission. Medical: Procedures like LASIK, skin resurfacing, and diagnostic imaging.

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Industrial: Laser marking, cutting, welding, and material processing. Automotive and sensing: LiDAR, ADAS, and 3D sensing for autonomous vehicles.

Examples of Leading Manufacturers

Some of the top laser diode manufacturers globally include: Frankfurt Laser Company (Germany): Produces FP, DFB, and DBR laser diodes, superluminescent diodes, and laser modules for telecommunications, medical, and industrial applications.

OSRA

M / ams-OSRAM AG (Germany): Offers edge-emitting and VCSEL laser diodes for 3D sensing, automotive lighting, and medical imaging. Coherent, Inc. (USA): Supplies lasers and laser-based technologies for scientific, medical, and commercial sectors.

Lumentum Operations LL

C (USA): Provides diode lasers, VCSEL arrays, and tunable lasers for telecom, 3D sensing, and industrial applications.

ROH

M Co., Ltd. (Japan): Manufactures laser diodes for optical storage, printers, and automotive HUDs.

Pro

Photonix (USA): Produces LED illumination products and laser diode modules for industrial, medical, and scientific use.

Key Capabilities

Laser diode manufacturers often provide: Custom modules and assemblies with fiber coupling, temperature control, and wavelength stabilization.

OE

M solutions for integration into larger systems. High-power and specialized diodes for defense, aerospace, and research applications. In summary, a laser diode manufacturer is a specialized company that produces high-precision semiconductor light sources, enabling a wide range of technological applications across consumer, industrial, medical, and scientific fields.

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Article Content

48 Laser Diode Manufacturers in 2026

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Laser diode

OverviewTheoryHistoryTypesReliabilityApplicationsCommon wavelengthsFurther reading

A laser diode (LD, also injection laser diode or ILD or semiconductor laser or diode laser) is a semiconductor device similar to a light-emitting diode in which a diode pumped directly with electrical current can create lasing conditions at the diode''s junction. Driven by voltage, the doped p–n-transition allows for recombination of an electron wit

Diode Lasers | Suppliers | Photonics Buyers'' Guide | Photonics

Explore 138 top manufacturers and suppliers of Diode Lasers in our comprehensive photonics buyers'' guide. A diode laser is a type of laser that uses a semiconductor diode as the active medium to

Laser Diode Selection Guide (ALL MANUFACTURERS)

We try to help our community of laser scientists & engineers find the best products for their projects by hosting a free Open-Index product database with lasers from all manufacturers. Manufacturers can

Top 5 Laser Diode Manufacturers Companies in the World

Top laser diode companies include Coherent, Inc., IPG Photonics Corporation, OSRAM, TRUMPF, and Jenoptik AG, among others.

Laser Diode Market: Top 10 Companies & Key Players

Let''s take a closer look at the top 10 companies that are shaping the laser diode market globally. 1. ams-OSRAM AG. ams-OSRAM AG is a global leader in optical solutions and a key player

What are Laser Diodes? | TechWeb

In addition to ROHM products, these distributors handle laser diode (semiconductor laser) products from other manufacturers. Product prices, inventory, delivery times and the like can be

Laser Diode Manufacturers

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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

Top 5 Laser Diode Manufacturers in the World

The global laser diode market has several major players including Coherent, IPG Photonics, OSRAM Licht AG, TRUMPF GmbH + Co. KG, and Jenoptik AG. More information about these companies has

IPL vs Diode Laser FAQ: Expert Answers for Aesthetic Clinics ...

Giới thiệu chung Choosing between IPL and Diode Laser technology is a critical strategic decision for aesthetic clinics and dermatology practices. While both modalities offer hair reduction,

pakistan-acquires-laser-diode-manufacturer

All Companies and suppliers for pakistan-acquires-laser-diode-manufacturer Find wholesalers and contact them directly Leading B2B martketplace Find companies now!

Pakistan acquires laser diode manufacturer Germany

All Companies and suppliers for pakistan-acquires-laser-diode-manufacturer Find wholesalers and contact them directly Leading B2B martketplace Find companies now!

Arroyo Instruments

Laser diode and temperature controller manufacturer Arroyo Instruments is a laser diode driver and temperature controller manufacturer offering incredibly precise

What Is a Laser? How It Works, Types, and Uses

Fiber lasers are a specialized type of solid-state laser where the gain medium is a thin strand of glass fiber. The light-guiding properties of the fiber produce a straighter, more precise beam

Laser Heads for CNC Engraving ∗ Laser Systems,

European manufacturer of laser systems, modules, and electronics. Laser solutions for science and industry. E-shop: laser components, engraving laser heads for

Laser Diode: The Ultimate Beginner''s Guide

This is the ultimate beginner''s guide to the laser diode. Learn how lasers work and how you can use them in your own projects with this guide.

Microphotons CVD-167 High-Power Pulsed Laser Diode, 905 nm, 100

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Overview The Microphotons CVD-167 is a high-reliability, hermetically sealed pulsed laser diode engineered for demanding time-of-flight (ToF), LIDAR, and active illumination applications requiring

ODM Diode Laser Manufacturer Factory and Suppliers, Manufacturers ...

Best diode laser manufacturer and supplier with factory direct pricing. Choose our high-quality products for your laser treatment needs.

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

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