

Latest Blue Laser Diode Models



AI Overview

The newest blue laser diodes include high-efficiency 455 nm devices from ams OSRAM, multi-kilowatt industrial lasers like Shimadzu's BLUE IMPACT, and advanced GaN-based lasers from BluGlass. ams OSRAM 455 nm High-Efficiency Laser Diode ams OSRAM recently launched the PLPT9 450LC_E, a blue laser diode with a wavelength of 455 nm, delivering 5.5 watts of optical power and a wall-plug efficiency of 43% . Packaged in a compact TO90 design, it is suitable for industrial and medical applications requiring high optical performance and robust packaging. The device also offers 2 nm wavelength binning, allowing precise selection for applications demanding wavelength accuracy . Shimadzu BLUE IMPACT Shimadzu Corporation has developed the BLUE IMPACT, a direct diode blue laser optimized for copper processing. As of May 2024, it achieved 6 kW output, the highest for a blue laser globally . This laser features on-demand beam profile control, enabling high-quality, high-throughput processing of metals and advanced materials like aluminum nitride and copper. It is being applied in industrial manufacturing, particularly for EV components and power electronics, offering energy-efficient and precise laser bonding . BluGlass GaN-Based Lasers BluGlass provides GaN laser diodes spanning 397 nm to 450 nm in the blue spectrum, with custom solutions for industrial, defense, scientific, biotech, and display applications . Their remote plasma chemical vapor deposition (RPCVD) technology reduces resistive and optical losses, improving efficiency compared to traditional GaN laser diodes. BluGlass also offers custom wavelength development and multi-chip modules for high-performance applications .

Key Trends

- Higher efficiency and output power:** Modern blue laser diodes achieve efficiencies above 40% and output powers from several watts to kilowatts .
- Industrial applications:** High-power blue lasers are increasingly used for metal processing, including copper welding, cutting, and bonding .
- Display and projection:** GaN-based...

Article Content

Blue Lasers | 420-499nm, pulsed, CW & diode lasers

Shop RPMC's Blue lasers: 420-499nm, pulsed, CW & diode lasers, for various research & industrial applications like copper & non-ferrous metal welding

(PDF) High-Powered Diode Lasers—New, Bright and Blue

The paper discusses the evolution and impact of high-powered diode lasers, particularly in industrial manufacturing processes and emerging applications

GaN Lasers | Kyocera SLD Laser

The miniature form factor and high optical power of the GaN semi-polar blue laser features reliability, high optical brightness with free space and fiber delivery

Blue Laser Diodes

Our expertise in laser diode technology allows us to provide you with any technical support you may require in selecting the optimum laser diode for your

Introducing The New High-Efficiency Blue Laser Diode With 455 nm

Whether for large-scale projections or intricate laser displays, this blue laser diode delivers exceptional results, enhancing visual experiences across multiple platforms. In addition to projection,

GaN Laser Diodes – Bluglass

BluGlass" novel laser diode designs replace the highly lossy materials in traditional laser diode designs by combining the best of traditional nitride growth techniques

Breakthroughs in blue and green laser diodes

In conjunction with our advances in high-output blue LDs, we are developing blue direct diode laser modules for copper processing. These modules, incorporating multiple high-output blue

ams OSRAM 455 nm Hochleistungs-Blaulaserdiode

Ob Großbildprojektionen oder raffinierte Laser-Displays: Diese blaue Laserdiode liefert hervorragende Ergebnisse, die faszinierende visuelle Erlebnisse über

Blue Lasers – violet, cyan, upconversion, laser diodes,

Blue lasers are lasers emitting blue light. There are many different kinds of blue lasers, including laser diodes and frequency-doubled laser sources.

Blue Diode Lasers in the Real World: 5 Uses You'll Actually ...

Blue diode lasers have become a vital component across multiple industries, thanks to their precision, efficiency, and versatility. From healthcare to manufacturing, these compact yet

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

Invention, development, and status of the blue light-emitting diode ...

The realization of the first high-brightness blue-light-emitting diodes (LEDs) in 1993 sparked a more than twenty-year period of intensive research to improve their efficiency. Solutions to

Blue Laser Diodes

Mobile laser scanning projection applications have specific requirements to the blue laser diodes. Although the requirements like wavelength, beam quality, low threshold and high slope efficiency are

Blue High-Power Laser Diodes -

High-power diode lasers are possibly the most efficient way of making electrical energy usable for material processing, like welding, cutting, soldering

Diode laser-based broad spectrum solid-state lighting and visible light ...

Achieving high luminous efficacy while maintaining a high color rendering index remains challenging. Therefore, diode-laser-pumped phosphor is preferred for energy-saving solid-state

Compact Blue Laser Diode Modules

All of our laser modules are designed for compactness, ease of use, and integration into your system. Many of our laser modules can be configured to output blue

Blue Laser Diodes - Mouser

Mouser offers inventory, pricing, & datasheets for Blue Laser Diodes.

Blue diode pumping: unveiling the potential for deep-red Ho

Abstract Blue laser diodes (LDs) have gained significant attention as cost-effective pump sources for efficient visible rare-earth (RE) doped fiber lasers, owing to their high power and

The Blue Laser and Its Applications in Industry and Science

Blue Laser, its advantages and applications. State-of-the-art blue semiconductor laser modules make a reliable and cost-effective

ams OSRAM 455 nm High-Efficiency Blue Laser Diode

The blue laser diode in a TO90 package is another part of the continuously growing portfolio. It features a compact and robust design, making it ideal for applications

The blue wavelengths in laser dentistry: a review of current ...

Dental laser applications are steadily increasing in popularity amongst dentists for the last four decades. Although many wavelengths are available for practitioners, semiconductor lasers or

Research on all-solid-state blue lasers

Abstract Blue lasers have many important applications such as high-density optical data storage, biological and medical diagnostics, color displays, and submarine laser imaging and

Blue Ultra-Brilliant Diode Laser with High Brightness

Blue Ultra-Brilliant Diode Laser: The world's leading blue high-brightness diode laser systems for powder bed 3D metal printing, copper welding, and more.

Blue High-Power Laser Diodes – Beam Sources for Novel Applications

Right: blue laser in TO package (Source all images: Osram) High-power diode lasers are possibly the most efficient way of making electrical energy usable for material processing, like welding, cutting,

Blue Quantum Dot Light-Emitting Diodes toward Full-Color Displays ...

Quantum dots (QDs) light-emitting diodes (QLEDs) are gaining significant interest for the next generation of display and lighting applications because of their wide color gamut, cost-effective

Blue Laser Diode Modules Online | World Star Tech

High-performance blue and violet laser modules for precision applications. Explore solutions designed for unmatched accuracy. Power your projects!

New generation of color lasers | ams OSRAM

New product availability The PLT3 and PLT5 single-mode lasers based on the new ams OSRAM diode chip have a typical peak wavelength of

Blue Laser Diodes Market Size & Share 2035

Blue Laser Diodes Market Size The Global Blue Laser Diodes Market size stood at USD 285.70 Million in 2025 and is projected to grow to USD 296.10 Million in 2026 and USD 306.88

Narrow-linewidth blue diode laser array Assisted ~10 W continuous

In this paper, we demonstrated a high-power continuous-wave (CW) 639 nm Pr³⁺:YLF laser pumped by a narrow-linewidth blue diode laser array locked by a grating external cavity.

Contact Us

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