

# African Blue Laser Diode



## Article Overview

The African Blue Laser Diode is a high-power GaN-based blue laser, typically operating around 450–455 nm, used in industrial, medical, and display applications.

### Overview

Blue laser diodes, including those similar to the African Blue Laser Diode, are primarily based on gallium nitride (GaN) technology with InGaN quantum wells, enabling emission in the 445–455 nm range . These diodes are compact, efficient, and capable of high optical power, making them suitable for applications requiring precise, high-intensity blue light.

### Key Specifications

- Wavelength: Typically 450–455 nm, which is considered "true blue" for display and projection applications .
- Power Output: Modern high-power diodes can deliver several watts of optical power; for example, the ams OSRAM PLPT9 450LC\_E achieves 5.5 W at 455 nm .
- Efficiency: Wall-plug efficiency can reach 43%, significantly improving energy use and reducing heat generation .
- Package: Compact and robust designs, such as TO-38 or TO-90 packages, allow integration into embedded systems or industrial modules .
- Spectral Width: Narrow emission spectra enable precise targeting in applications like flow cytometry or laser scanning .

### Applications...

## Article Content

Blue Laser Diode Market (2024-2034)

Blue laser diodes enable wider color gamuts and improved brightness levels compared to traditional LED-based

Blue laser

Blue, direct diode semiconductor lasers can be built using inorganic gallium nitride (GaN) or InGaN gain

ams OSRAM 455 nm High-Efficiency Blue Laser Diode | ams OSRAM

Introducing the New High-Efficiency Blue Laser Diode with 455 nm Wavelength Premstaetten (Austria) and Munich (Germany),

Laser Diode Modules, Green, Blue & Red | RS

Laser Modules Laser modules are packaged devices which contain a laser diode alongside other components, such as power

Compact Blue Laser Diode Modules

Blue Laser Diode Modules available in 450nm and 488nm, and a range of form factors, output powers, and beam shapes to suit your

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

Blue diode laser

Description The blue diode lasers distributed by our company are well known as high tech tools in industry,

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

A blue diode laser is a type of semiconductor laser that emits light in the blue wavelength range of the electromagnetic spectrum,

LD | NICHIA CORPORATION

Nichia's laser diodes deliver world-class quality and optical output power. With stable emission

(PDF) Blue Diode Lasers

PDF | The recent achievement of compact blue-emitting gallium nitride semiconductor lasers is likely to have

Blue High-Power Laser Diodes -

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

The Blue Laser and Its Applications in Industry and

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

Comprehensive analysis of blue diode laser-annealing of amorphous ...

However, utilizing a conventional excimer laser source for LTPS incurs high cost. In this paper, we demonstrate a

Blue lasers offer new power for copper manufacturing

The move from infrared to blue laser processing will improve the precision of copper component assembly,

Middle East and Africa Blue Diode Lasers Market Size ...

Industry leaders in the Middle East and Africa Blue Diode Lasers Market are shaping the competitive landscape

Blue Laser Diodes Market 2025

Blue Laser Diodes Market size was valued at USD 245 million in 2024 to USD 370 million by 2032, exhibiting a CAGR of 6.2% during

Laser Diode, Surface Mount & Through Hole | RS

Laser diodes are available in a range of different packages, for example TO-38 and TO-56. What colours are laser diodes? The most

Africa Laser Diode Market (2025-2031) | Value & Outlook Growth

6Wresearch actively monitors the Africa Laser Diode Market and publishes its comprehensive annual report, highlighting emerging

Blue Lasers – Buyer's Guide & Supplier List | RP Photonics

This buyer's guide for blue lasers provides technical background, comparison of major types, selection criteria, and an overview of

(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

Gallium Nitride (GaN) Laser Diodes | UV/blue/green | Blogs | RPMC

Gallium Nitride (GaN) laser diodes have revolutionized industries by enabling compact, efficient light sources in violet (405 nm), blue

## South Africa Blue Laser Diode Market Size and Forecasts 2032

The adoption of blue laser diodes in direct diode laser systems for industrial material processing in South Africa is

### Blue Laser for Marking & Cutting Applications

blue Laser - a flexible, eco-friendly solution in entry-level marking and cutting applications The latest blue

### GaN Laser Diodes - Bluglass

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

### Blue High Power Diode Laser up to 6 kW | LASERLINE

The blue diode laser revolutionizes the processing of copper, gold, and other highly reflective metals in several ways respects. The

### Blue 450 nm Laser Diodes - Mouser

Blue 450 nm Laser Diodes are available at Mouser Electronics. Mouser offers inventory, pricing, & datasheets for Blue 450 nm Laser

### Middle East and Africa Blue Laser Diodes Market Growth ...

The long-term revenue potential of the Middle East and Africa blue laser diodes market is substantial, supported by

### Amazon : Blue Laser Diode

1-16 of 220 results for "blue laser diode" Results Check each product page for other buying options.

### Laserline LDMblue

The LDM blue diode lasers are available in three standard configurations with 1,000, 500 or 300 W output power at

### Laser Diodes | RS

Shop our range of Laser Diodes, colours include red, blue, and green laser diodes. Browse our IR, VCSEL and continuous wave

### Amazon : Blue Diode Laser

Amazon : Blue Diode Laser Check each product page for other buying options. Price and other details may vary based on

### Blue Laser Diode Market Size, Share & Growth Forecast, 2035

Saudi Arabia Blue Laser Diode Market Insights: Saudi Arabia dominates the Middle East & Africa Blue Laser Diode

## Contact Us

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