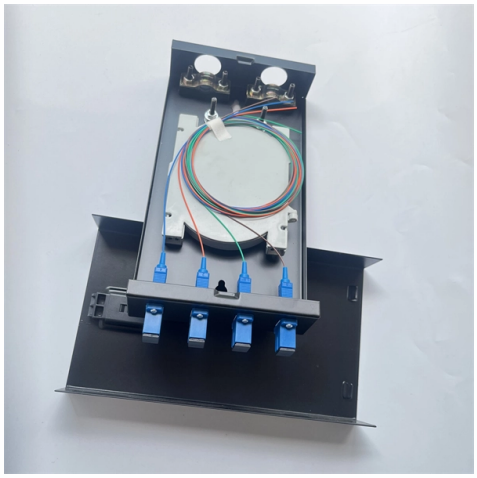
Tri-tunnel junction laser diode



Overview

We present a triple junction high power laser diode at 1550nm based on AlInGaAs/InP material system. The device was developed, fabricated, and tested. The laser stacks three AlInGaAs lasers epitaxially connected by two tunnel junctions and grown on InP substrate. Three monolithic laser structures with tunnel junction layers are designed to reduce. With the technology development, it is highly desirable to enhance the power and brightness of a 1550 pulsed laser in order to increase the detectable distance and improve the spatial resolution. Modeled absorption loss, band structure, and distributed feedback grating designs. Summers 2015, 2016 Engineering Intern, Xallent LLC. In nitride-based laser diodes, the poor conductivity of the p-type region, higher light absorption, and the difficult processing of an ohmic p-contact with low resistance are major challenges.

Article Content

1550nm triple junction laser diode for long range LiDAR

We present a triple junction high power laser diode at 1550nm based on AlInGaAs/InP material system. The device was developed,

Dynamical Behavior of a Stacked Blue Laser Diode Consisting of Two ...

Recently interband tunnel junctions (TJs) have been used to replace much of the hole transport layers by electron

MOCVD Growth and Loss Optimization for Tunnel Junction Contacts

Figure 1.6: Cross-sectional schematics of generic epitaxial layer stacks for III-Nitride optoelectronic devices without a tunnel junction

Novel 900 nm diode lasers with epitaxially stacked multiple active ...

A multi-active-region bipolar-cascade edge-emitting laser emitting at nearly 900 nm is presented. The three active regions and two

High pulse power 1550 tunnel junction laser diode

With the technology development, it is highly desirable to enhance the power and brightness of a 1550 pulsed laser in

Tunnel junctions for vertically integrated multiple nitrides laser ...

The tunnel junctions (TJs) in the III-nitrides optoelectronic structures open possibilities for new applications such as vertically

Multi-junction long-wavelength laser diode in long range LiDAR for

We present a triple junction high-power laser diode at 1550nm based on AlInGaAs/InP materials. The laser stacks three AlInGaAs

Lasing mode design and characterization of 1550nm triple junction

21 March 2025 Lasing mode design and characterization of 1550nm triple junction laser diode for time-of-flight LiDAR and LRF

Vertical Integration of Nitride Laser Diodes and Light Emitting Diodes ...

We demonstrate the applications of tunnel junctions (TJs) for new concepts of monolithic nitride-based multicolor light

Contact Us

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