

APC laser diode



AI Overview

APC laser diodes are laser diodes with integrated Automatic Power Control that maintain stable optical output despite temperature changes, aging, or voltage fluctuations. Overview APC stands for Automatic Power Control, a feature integrated into the laser diode module to stabilize its optical output. Unlike standard laser diodes, whose output can fluctuate with temperature or over time, APC laser diodes use a feedback loop to continuously adjust the drive current, ensuring consistent light intensity (). How APC Works The APC system relies on a monitor photodiode integrated with the laser diode. This photodiode detects the emitted light and sends a signal to the APC circuit, which adjusts the laser's drive current to maintain the desired output power. This prevents over- or under-emission caused by temperature changes, aging, or supply voltage variations (). Key points of APC operation include: Temperature Compensation: As temperature rises, the laser threshold current increases, which could reduce output power. APC adjusts the current to maintain constant output (). Aging Compensation: Over time, the laser diode's efficiency decreases. APC compensates by adjusting the drive current to sustain stable output (). Integrated Control: The APC circuitry is often built into an ASIC on the same chip as the laser diode and photodiode, allowing compact module designs (). Applications APC laser diodes are widely used in applications requiring precise and stable optical output, such as: Laser pointers and pilot lasers Measuring instruments and light barriers Barcode readers and high-precision sensors Eye-safe laser modules with automatic shutdown if current exceeds safe limits () Specifications Typical APC laser diode modules feature: Compact TO housings: 3.3 mm or 5.6 mm Supply voltage: 2.5–6.0 VDC Wavelength range: 635–850 nm ESD protection: Up to 10 kV in some models Integrated driver and photodiode for automatic power regulation () Advantages Stable optical output under varying environmental conditions Protection...

Article Content

AlGaInP—APC Visible Laser Diode

Traditional LD needs to connect an external APC circuit board for the constant power operation. The VR (variable resistor) is used to adjust the laser output to a desired target power.

APC Laser Diode

Perfect Solution For Auto Power Controlled Laser Diode By converting the external APC circuit board into an ASIC, we package the APC circuit into a traditional TO-can together with the laser chip. From

Tech Note: Automatic Power Control

What is Automatic Power Control (APC)? Laser diodes require proper drive circuitry to control optical output and compensate for changes in operating

N-Type Laser Diode Driver with APC and ACC

With AVG set to low, the Tables 4 and 5 show how to set the inputs for laser peak power control is enabled. The laser power level control depending on the input interface selected (TTL is selected by

APC Laser Diode

From now on, single package APC function included laser diode is realized. Powered with Arima's proprietary APC Laser Diode TM technology, ADL-65075TA2 is your perfect solution for the stable

1064 nm Laser

Description Compact 1064 nm laser is a direct diode module used in numerous applications, such as inspection, optical guiding, infrared absorption. The small size and all-in-one concept of the

LASER DIODE CONTROLLER WITH APC

The SY88905 is an integrated control circuit for laser diode modules intended for high-frequency fiber-optic applications. The device is designed to operate with the SY88902 laser diode driver providing

Automatic Power Control for Laser Diodes Using LMH13000 (Rev

This enhances reliability and optimizes performance in applications which require precise control of the optical output. This article presents the design and implementation of an Automatic Power Control

Automatic Power Control for Higher Safety in Laser Diodes

The new A4 series of compact APC laser diodes offers additional protection for whenever an eye-safe radiation beam is required: As soon as the operating current exceeds a certain level, the

APC Laser Diodes

Our new APC laser diodes are probably the smallest cw laser diode modules in the world. They are well suited as an alternative to the normal laser diodes in laser pointers, pilot lasers,

Laser Diode Driver with APC Amplifier for Printers

Laser Diode Driver with APC Amplifier for Printers ISL58115 The ISL58115 is a high-performance laser driver that provides controlled current to grounded laser diodes. A bias current is summed with the

HIGH POWER APC LASER DIODE DRIVER

The EDL2 High Power APC Laser Diode Driver device is a driver and controller for laser diodes in both continuous wave and up to 20KHz TTL modulation operation which requires only few external

LD-PD PTE. LTD.

The PL-FP-6 3 3 -A-1-PA-14BF is single mode laser diode module designed for optical measurement and communication. The laser is packaged in 14-pin standard butterfly package with monitor

Green—APC Visible Laser Diode

By converting the external APC circuit board into an ASIC, we package the APC circuit into a traditional TO-can together with the laser chip. From now on, single package APC function included laser diode

Green—APC Visible Laser Diode

Green—APC Visible Laser Diode ADL-52051SA4 520nm 5mW LD By converting the external APC circuit board into an ASIC, we package the APC circuit into a traditional TO-can together with the

638 nm Laser

Laser diode-based model emits red radiation with high wavelength and power stability, and up to 10 MHz modulation frequency. A 200 mW laser diode at 638 nm is used in this module, and we leave

DFB LASERS

LiDAR High Power 1550nm DFB Laser Diode, 14-pin Butterfly Package Typical Power : > 60 mW InGaAsP MQW DFB Laser Diode Narrow Linewidth : 200kHz View \$490.00 View SKU: RLS/DFB

Thorlabs · New Products

960 nm, 80 mW, Butterfly Laser Diode, PM Fiber, FC/APC Released: May 20, 2026
Light NIR Laser Diodes: Center Wavelengths from 705 nm to 2000 nm 1.386,23 €
Choose a Unit FPL1064P

Photodiode

Explore our Photodiode collection, featuring main products like Laser Diode, Butterfly Laser, and 464+ more items from Xiamen Bely Information Technology Co., Ltd. on Alibaba .

405 nm Laser

TTL modulation speed in automatic power control (APC) is up to 1 kHz. 10 & nbspThis function can be enabled in hardware only if the fast modulation option is disabled. The customer must specify this

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://www.introspec.co.za>

Email: info@introspec.co.za

Phone: +27 73 849 2156

Address: 25 Riebeek Street, Cape Town, 8001, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

