

CD burner laser diode



Overview

Harvesting a Laser Diode From an Optical Drive: Have you ever wondered how powerful that tiny little laser is in your CD, DVD, or BluRay drive/burner? Well now you can.

Key Takeaways

Laser diodes in CD burners typically emit infrared light at 780 nm with 50–125 mW continuous power and require careful current regulation to operate safely.

Specifications and Operation

Laser diodes from CD-RW drives operate in the infrared spectrum at 780 nm, designed specifically for burning CDs. Their continuous output power ranges from 50 to 125 mW, with pulsed output reaching 100–250 mW. The average operating current is around 100–150 mA, with pulses up to 200 mA, and the voltage drop across the diode is approximately 2.

1–2. 15 V. These diodes are usually Class IIIb lasers, meaning they can cause permanent eye damage and burns if mishandled, so protective eyewear is essential when experimenting with them.

Using CD Burner Laser Diodes

Current Limiting: Directly connecting a diode to a voltage source can destroy it due to its near-zero differential resistance. A series resistor or a stabilized current supply using components like LM317 or 7805 is recommended to safely power the diode.

Optics: The original CD burner optics focus the laser at a very short distance (a few millimeters), which is unsuitable for general experiments.

To repurpose the diode: Remove the diode and place it in a laser housing with adjustable lenses. Alternatively, modify the original optics by removing one lens and adjusting the other to focus the beam at a desired distance (1 cm to 1 m or more),. Limitations: Even with proper optics, CD-RW diodes are not very powerful for burning or cutting materials.

They can char paper or tape slowly but are far below 1 W, so they are unsuitable for rapid engraving or cutting tasks without specialized focusing optics.

Safety Considerations

Never look directly into the laser beam, even without lenses. Avoid pointing the beam at reflective surfaces. Use protective eyewear rated for infrared lasers.

Be aware that the beam can cause burns or start fires if concentrated on flammable materials. Summary CD burner laser diodes are infrared, low-power lasers designed for precise CD writing. They can be repurposed for hobbyist projects like laser pointers or small-scale experiments, but burning or cutting requires careful optics and current control, and their power is limited compared to dedicated high-power laser modules.

Always prioritize safety when handling these diodes.

Article Content

Harvesting a Laser Diode From an Optical Drive

Harvesting a Laser Diode From an Optical Drive: Have you ever wondered how powerful that tiny little laser is in your CD, DVD, or BluRay drive/burner? Well now you can.

Laser diodes from CD-RW drives can cut and burn!

Laser diodes from CD-RW drives can cut and burn! Everyone certainly knows laser pointers. You can have a lot of fun with them. On the other hand the pointer only shines, has no thermal effect. Not

Powerful Burning Laser : 5 Steps (with Pictures)

Hello today im going to show you how to make a powerful burning laser from DVD-RW, before we begin I must caution that its very powerful thing and can seriously damage your eyes, be careful.

How to Make a Powerful Laser from a CD ROM Drive | Laser Lights

In this video, we show you how to extract the laser diode from an old CD-ROM and turn it into a working laser light. This fun and educational project is perfect for hobbyists and anyone...

Powerful laser diodes from DVD-RW drive

One is infrared (CD burner) and one red (DVD burner). Both diodes have about the same order of magnitude performance and thermal effects (maybe the infra burn

How to Make a Burning Laser: 9 Steps (with Pictures)

Low powered laser pointers are commonplace as classroom tools or pet toys, but if you get the right diode you can construct and focus a laser that is powerful enough to burn through objects or set them on fire.

DIY Powerful Burning Laser Guide

This document provides instructions for building a powerful burning laser for cheap using parts from an old DVD burner. It begins by explaining how the author built their first laser without safety glasses

CD Player Laser Diode Replacement

This particular component contains dual laser diodes, including their phototransistors for sensing the reflected laser beams. It is all self-contained in a

Cd Burner Laser Diode Supplier and Manufacturer in China

This line chart illustrates the performance evolution of laser diodes used in CD burners over the years, from 2000 to 2023. The data shows a significant increase in diode power output, starting from 5 mW

Sciencing DVD-RW Laser Diodes

We've used " Sam's Laser Diode Test Supply 1 " for years, and we love it, but a pulsed laser tester would be a cool addition to the lab. What to do with your junk DVD-ROM laser?

Dual-Output, Multimode CD-RW/DVD Laser-Diode Drivers

The MAX9483/MAX9484 high-performance, multimode, laser-diode drivers (LDDs) are designed for CD and DVD combination pickup heads. The drivers consist of three input channels, an RF oscillator,

RLD2WMNL2_Low Output 2-Wavelength Laser Diode for DVD/CD

Low Output 2-Wavelength Laser Diode for DVD/CD Playback RLD2WMNL2 Series Energy Saving

Current and Voltage need to Drive DVD Laser Diodes

Could this be a laser diode that can emit both wavelengths? I also have a 2005 laptop DVD/CD burner that has class 3B diodes. Any advice or information on what voltage and current

CD player laser diode replacement

Hello everyone here! Thanks for adding me to this great community!! I would like to make a question, Firstly, sorry if this has already been answered here. I am trying to restore some vintage

HACKED!: Laser Diode from DVD Burner || Constant Current Source

UPDATE: It works! Here is a small video where I use another laser diode: • Laser Diode from DVD Burner ignites a match ! Previous video: • Electronic Basics #13: Coils / Inductors (...)

How to Make a Cutting Laser From a CD ROM

The laser diode inside of a CD ROM disk drive is powerful enough to cut through paper at very close range. Making a cutting laser using the CD laser diode can be done using a plastic

A high power laser come from a DVD burner, actually works!

Re: A high power laser come from a DVD burner? It only takes around 30-35 mw to burn a disc. The difference with DVD burners is the wavelength, not the power. A CD burner uses a 780nm

DVD to Laser Engraver : 12 Steps (with Pictures)

DVD to Laser Engraver: Hello everybody !! This is my very first instructable, i've been in this page for a couple of years now, and this is the first BIG project i tackle on, so i decided that after i finish it i was

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

