

Re: Using piezoelectric to power a laser diode?

Source: <http://sci.tech--archive.net/Archive/sci.electronics.basics/2006-01/msg01339.html>

- *From:* John Fields <jfields@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Fri, 27 Jan 2006 07:09:13 -0600
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On Fri, 27 Jan 2006 07:05:46 -0600, John Fields <jfields@xxxxxxxxxxxxxxxxxxxxxx> wrote:

>On 26 Jan 2006 18:45:18 -0800, bobrich@xxxxxxxxxx wrote:
>
>>Hi,
>>
>>I'm a complete novice/noob to electronics.
>>
>>I have a little project i'm working on, and would like to use a
>>piezoelectric power source to run a small visible laser diode for a
>>short duration (20-200ms). Does this seem feasible? The biggest
>>problem, from what i can tell, is the output voltage of the piezo is
>>likely to be much greater than the 2-3V i need to run the diode. The
>>other problem i'm having is actually finding suppliers of piezo devices
>>that would be suitable for this...all i can find are accelerometers and
>>strain gauges.
>>
>>Any thoughts? The energy source will be a sharp blow from a small
>>spring-loaded lever.
>
>---
>That won't work.
>
>Try this:
>
> Vcc Vcc
> ||
> [10K] [100K] +-----+
> || |__ |
> +-----[0.1µF]---+-----|---O|TR OUT|O----[R]---+
> |- |A || |A
> [PIEZO] [1N4148] +----|TH | [LASER]
> |+ || |__ ||
> GND GND +---O|D | GND
> | +-----+
> [1.5µF] 555
> |
> GND

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Oops...

The 1N4148 _cathode_ should be connected to the 10k resistor:

```
Vcc Vcc
||
[10K] [100K] +-----+
|| |
+-----[0.1µF]---+-----|---O|TR OUT|O---[R]---+
|- [K] | | |A
[PIEZO] [1N4148] +----|TH | [LASER]
|+ | | | |
GND GND +---O|D | GND
| +-----+
[1.5µF] 555
|
GND
```

John Fields
Professional Circuit Designer
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- **Follow-Ups:**
 - ◆ **[Re: Using piezoelectric to power a laser diode?](#)**
◇ From: bobrich
 - **References:**
 - ◆ **[Using piezoelectric to power a laser diode?](#)**
◇ From: bobrich
 - ◆ **[Re: Using piezoelectric to power a laser diode?](#)**
◇ From: John Fields
 - Prev by Date: **[Re: Using piezoelectric to power a laser diode?](#)**
 - Next by Date: **[Re: Alternating relay](#)**
 - Previous by thread: **[Re: Using piezoelectric to power a laser diode?](#)**
 - Next by thread: **[Re: Using piezoelectric to power a laser diode?](#)**
 - Index(es):
 - ◆ **[Date](#)**
 - ◆ **[Thread](#)**