

Re: LED Buffer Circuit

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- *From:* eletlabs@xxxxxxxxxx
 - *Date:* Wed, 14 May 2008 07:51:59 -0700 (PDT)
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On May 13, 9:25 pm, sck0006 <skam...@xxxxxxxxxx> wrote:

On May 13, 9:11 pm, D from BC <myrealaddr...@xxxxxxxxxx> wrote:

On Tue, 13 May 2008 17:36:28 -0700 (PDT), sck0006
<skam...@xxxxxxxxxx>
wrote:

I need help designing a circuit, it will be a tachometer
calibrator.
It will input 5V square wave signals from a Fluke 741B,
nothing higher
than 3kHz & it can't draw much current from the input. It
will have a
high intensity LED and a battery pack, something along the
lines of 4
D Cells. The LED I have has a VF of 3.1V with a current
draw of .2A
(no P/N on this guy, just found it in my drawer). Is
something as
simple as a Darlington pair & voltage regulator sufficient for
this,
say a 2N3904 feeding a TIP31? Is a common emitter or
common collector
configuration better suited for this application? I have a very
hard
time designing circuits, I'm just looking for a little guidance.

Thanks for the time,
Steve

Re: LED Buffer Circuit

How driving that LED with a mosfet driver instead?
Less parts, less math and less part
shopping.<http://www1.microchip.com/downloads/en/DeviceDoc/21390D.pdf>
TC1411 8 pin chip.
Spec'd down to 4.5V
TTL compatible input.
It's about \$1.00 from Digikey..

mosfet driver + resistor + LED ...done..??

But..If you want to maintain LED current while the 6V of batteries die
right down to 3.1V ...That's another design.

D from BC
British Columbia
Canada

Brilliant. I'll just replace the batteries if they start to die.
This design is about pure simplicity, you've hit the nail on the head
with your suggestion. Thanks for the great reply.

Steve– Hide quoted text –

– Show quoted text –

I think with the output resistance of the TC1411, I don't even need a
resistor at 5V, it shows typical resistance of 10 ohms, which with the
3V drop of the diode would be a 2V drop across the chip, which will
work out to approximately .2A, which is perfect for the LED. Now, I'd
just like to add a 5V regulator to the entire circuit. Of course,
I'll use more batteries to give the regulator headroom. Is there an
easy to use switching regulator with few components? I hate to just
put a linear device in there & give up that battery life to heat. It
just needs to be rated for say, 9–15VDC input, 5V output, .3A max
current. Any ideas?

Thanks again,
Steve

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