

Improvements for Luxury LED Bicycle Light

Dear Jan — I'd like to respond to the Luxury LED Bicycle Light article published in the September 2008 issue. Although

I liked the article, I consider the author's choice of the driver architecture remarkable to say the least. Elektor has been covering LEDs and LED drivers quite intensively lately and everyone now seems to agree on the current source as the best way to power an LED. All commercially available LED drivers are, in principle, current sources. The driver discussed in the article is a voltage source with pot adjustment. If, after some time, the LED exhibits a change in forward voltage, the current is likely to change, causing the light intensity to fluctuate considerably. Worse, the LED may get excess current causing severe reduction of its lifetime.

The above problems do not occur if you use dedicated LED drivers like the MAX16820 and MAX16832A, which are easy to apply and do not require adjustment. They also allow the compensation network

R1-C2 to be dropped, as well as output capacitor C3. See www.maxim-ic.com/MAX16820 and www.maxim-ic.com/MAX16832A.

Fons Janssen
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