

DN73

ZXSC300 Step down converter for 3W LED

Description

This design note shows the ZXSC300 or ZXSC310 driving a 3W LED. The input voltage ranges from 6.2V to 3.8V with a maximum output current of 1.11A at 6V input.

A typical schematic diagram is shown in Figure 1.

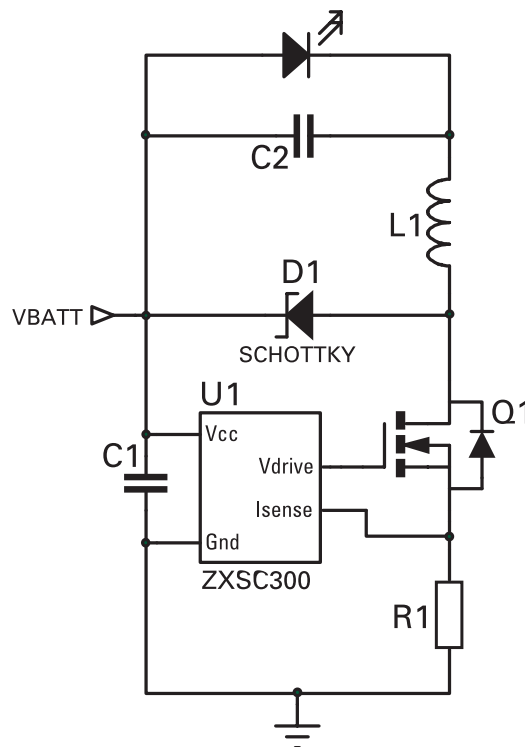


Figure 1 Schematic diagram

| Ref. | Value | Part number | Manufacturer | Comments |
|------|--------------|-------------|--------------|-----------------------|
| U1 | | ZXSC300/310 | Zetex | LED Driver in SOT23-5 |
| Q1 | | ZXMN2A01F | Zetex | SOT23 MOSFET |
| D1 | 1A | ZHCS1000 | Zetex | 1A Schottky in SOT23 |
| L1 | 22 μ H | Generic | Generic | $I_{SAT} = 3A$ |
| R1 | 20m Ω | Generic | Generic | 0805 size |
| C1 | 100 μ F | Generic | Generic | |
| C2 | 100 μ F | Generic | Generic | |

Table 1 Bill of materials

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Typical operating characteristics

(For typical application circuit where $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated)

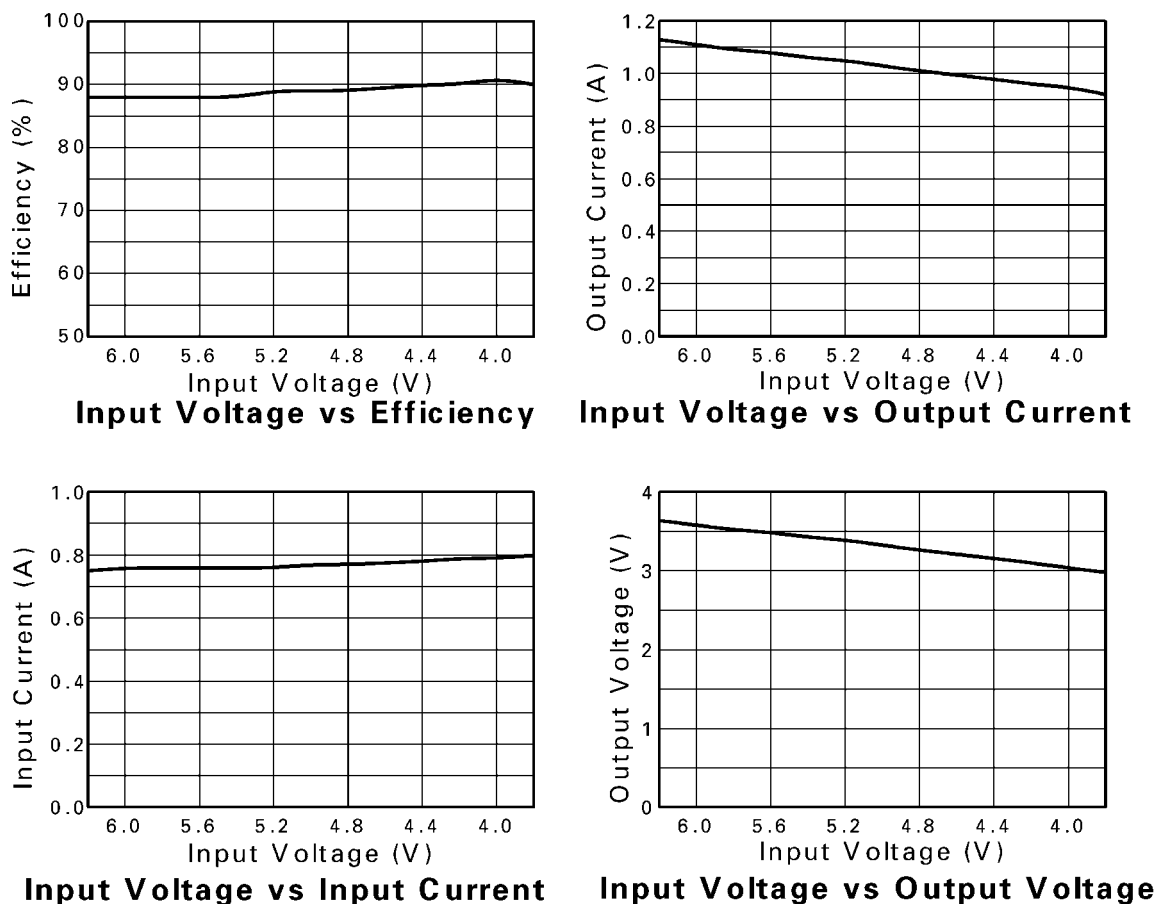


Figure 2 Performance graphs

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