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ZXSC400 Solution for Luxeon® V Star high powered LED

Description

This design note shows the ZXSC400 driving a Luxeon® V Star LED. The input voltage ranges from 4.2V to 5.4 V with a maximum output current of 700mA at 5V input.

A typical schematic diagram is shown in Figure 1.

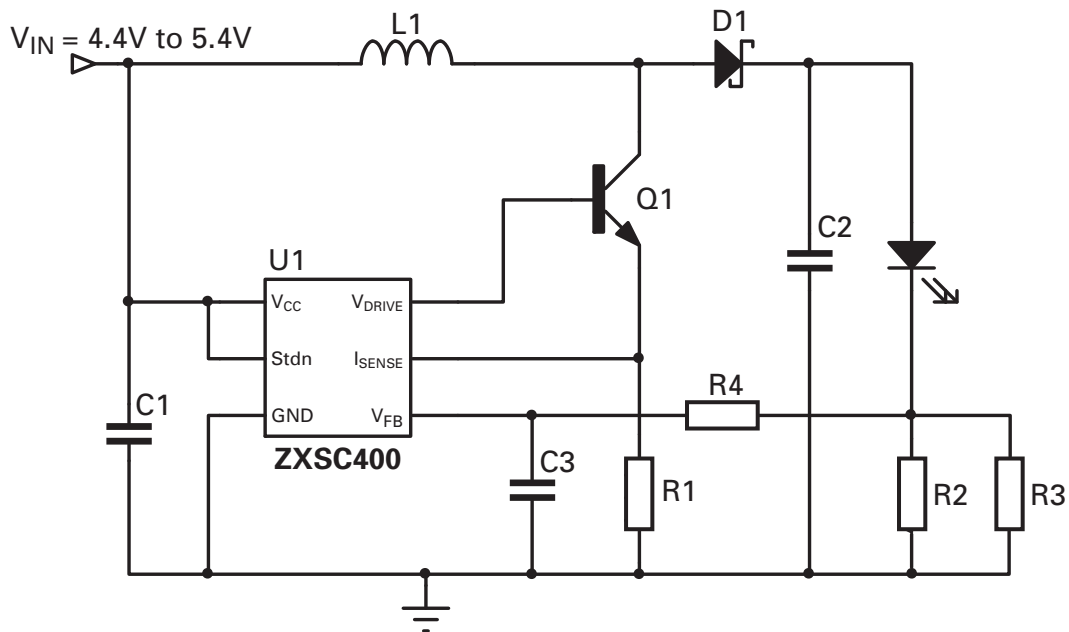


Figure 1 Schematic diagram

Ref.	Value	Part number	Manufacturer	Comments
U1		ZXSC400E6	Zetex	LED driver in SOT23-6
Q1		ZXTN25012EFH	Zetex	Low sat. NPN in SOT23
D1	2A	ZHCS2000	Zetex	2A Schottky in SOT23
L1	22 μ H	Generic	Generic	I _{SAT} = 2A
R1	18m Ω	Generic	Generic	0805 size
R2, R3	820m Ω	Generic	Generic	0805 size
R4	1k Ω	Generic	Generic	0805 size
C1	22 μ F/10V	Generic	Generic	
C2	100 μ F/10V	Generic	Generic	
C3	100nF/10V	Generic	Generic	0805 size

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)

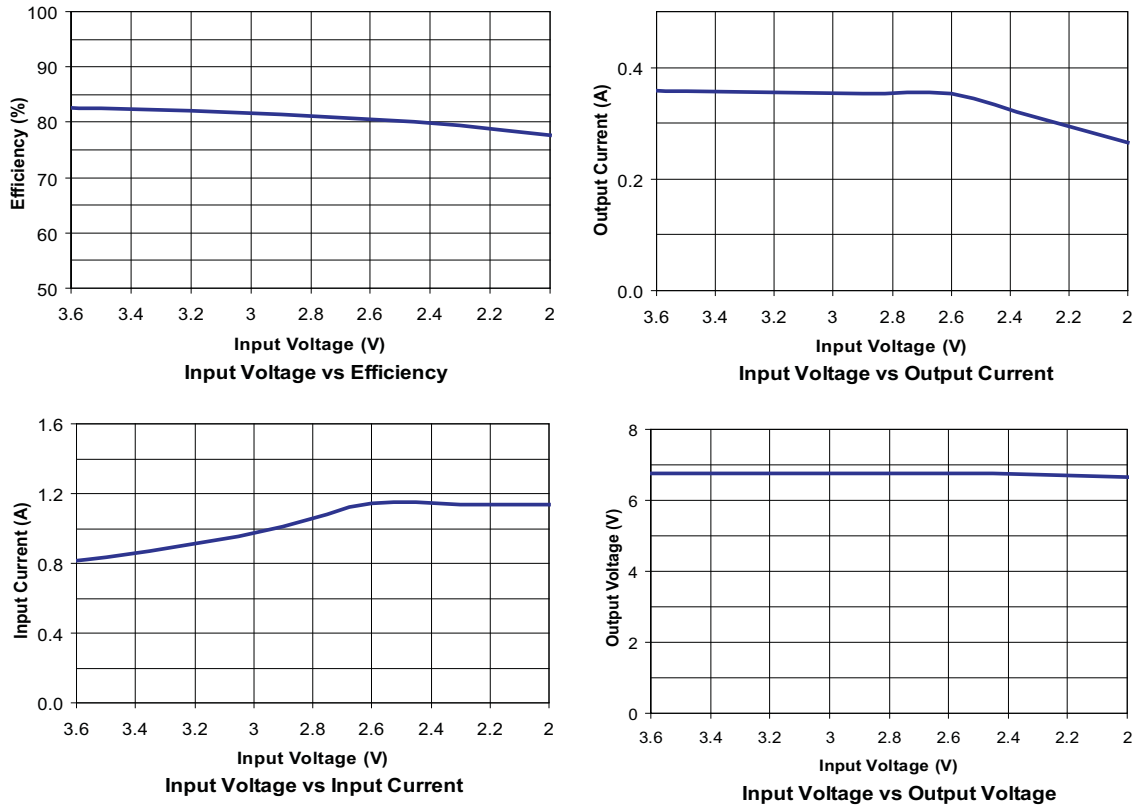


Figure 2 Performance graphs

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