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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 790mA at 5V input.

A typical schematic diagram is shown in Figure 1.

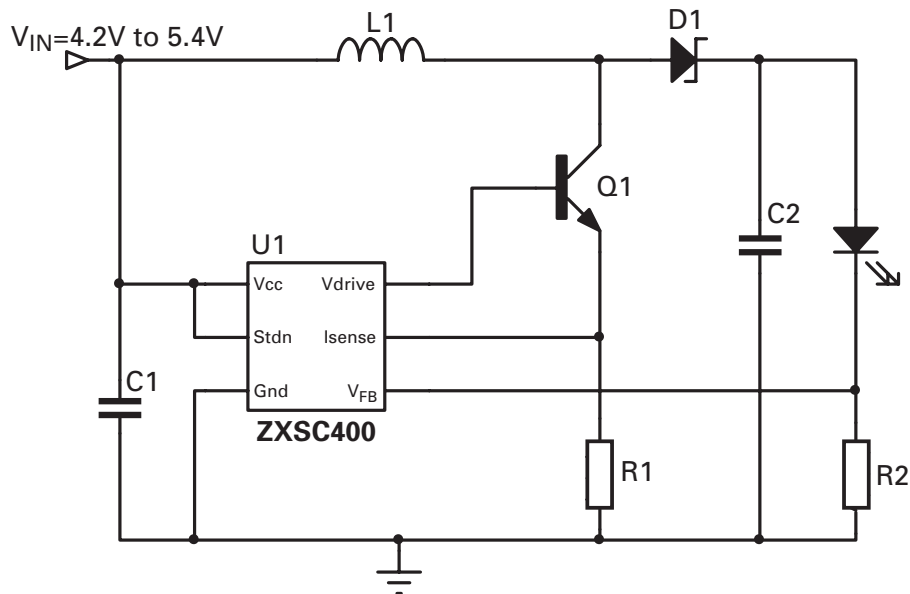


Figure 1 Schematic diagram

Ref.	Value	Part number	Manufacturer	Comments
U1		ZXSC400E6	Zetex	LED driver in SOT23-6
Q1		FZT1049	Zetex	Low sat NPN in SOT23
D1	2A	ZHCS2000	Zetex	2A Schottky in SOT23
L1	22mH	Generic	Generic	$I_{SAT} = 3A$
R1	22mV	Generic	Generic	0805 size
R2	350mV	Generic	Generic	0805 size
C1	220mF	Generic	Generic	
C2	450mF	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)

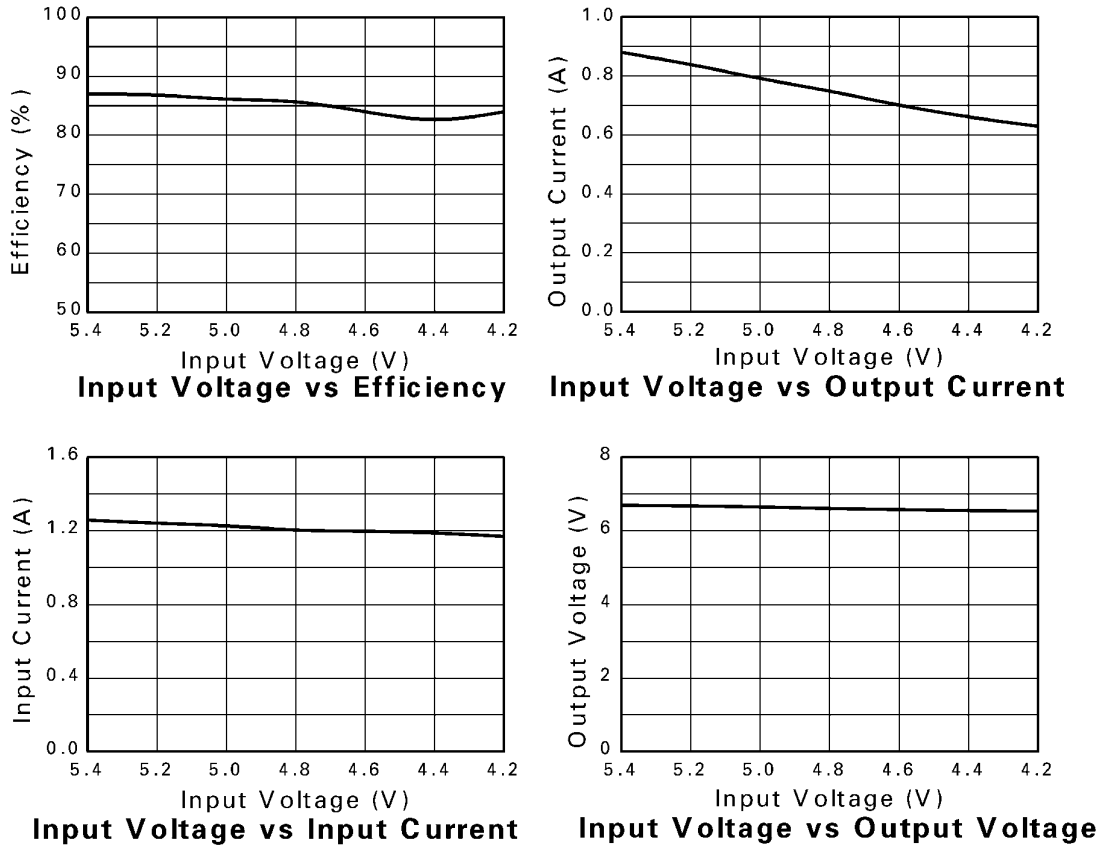


Figure 2 Performance graphs

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