



1.0 Design Specifications

Inputs	Outputs #1
VinMin=15	Vout1=14
VinMax=16.5	Iout1=0.400

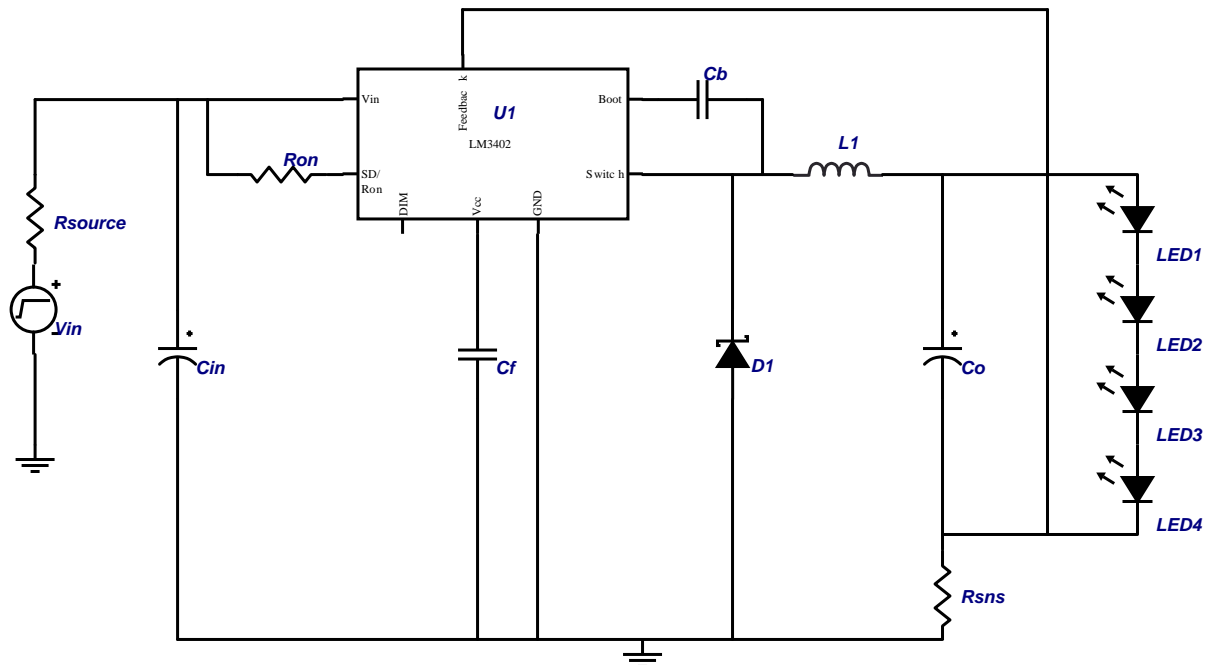
2.0 Design Description

This circuit is designed to drive an array of four series-connected InGaN WLEDs (typical Vf 13.8V total) at a continuous current of 400 mA from an input of 12VAC rectified to between

15V and 16.5V DC. Switching frequency is approximately 200 kHz to provide current control under near-dropout conditions.

Ripple current in the LED array is approximately +/-10% of the average LED current.

3.0 Schematic



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FIGURE 1. Example Schematic Showing Connection for all Components.

4.0 Bill Of Materials

Part	Manufacturer	Part#	Attributes
Cb	Vishay	VJ0805Y103KXXAT	10n F
Cf	Vishay	VJ0805Y104KXXAT	100n F
Cin	TDK	C3225X7R1E225M	NumCaps=1, 2.2u F
Co	TDK	C3225X7R1E474M	0.47u F
D1	Central Semiconductor	CMSH1-40M	0.5 V
L1	TDK	SLF7045T-470MR75	47u H, 0.13 Ohms
Ron	Vishay	CRCW08051023F	102k Ohms

Part	Manufacturer	Part#	Attributes
Rsns	Panasonic	ERJ6BQFR68V	0.68 Ohms
U1	National Semiconductor	LM3402	

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National Semiconductor Americas Customer Support Center
 Email: new.feedback@nsc.com
 Tel: 1-800-272-9959

National Semiconductor Europe Customer Support Center
 Fax: +49 (0) 180-530-85-86
 Email: europe.support@nsc.com
 Deutsch Tel: +49 (0) 69 9508 6208
 English Tel: +49 (0) 870 24 0 2171
 Français Tel: +33 (0) 1 41 91 8790

National Semiconductor Asia Pacific Customer Support Center
 Email: ap.support@nsc.com

National Semiconductor Japan Customer Support Center
 Fax: 81-3-5639-7507
 Email: jpn.feedback@nsc.com
 Tel: 81-3-5639-7560