

LM3402 Design Document

National Semiconductor
LM3402
October 2006



1.0 Design Specifications

Inputs	Outputs #1
VinMin=14	Vout1=10.7
VinMax=42	Iout1=0.350

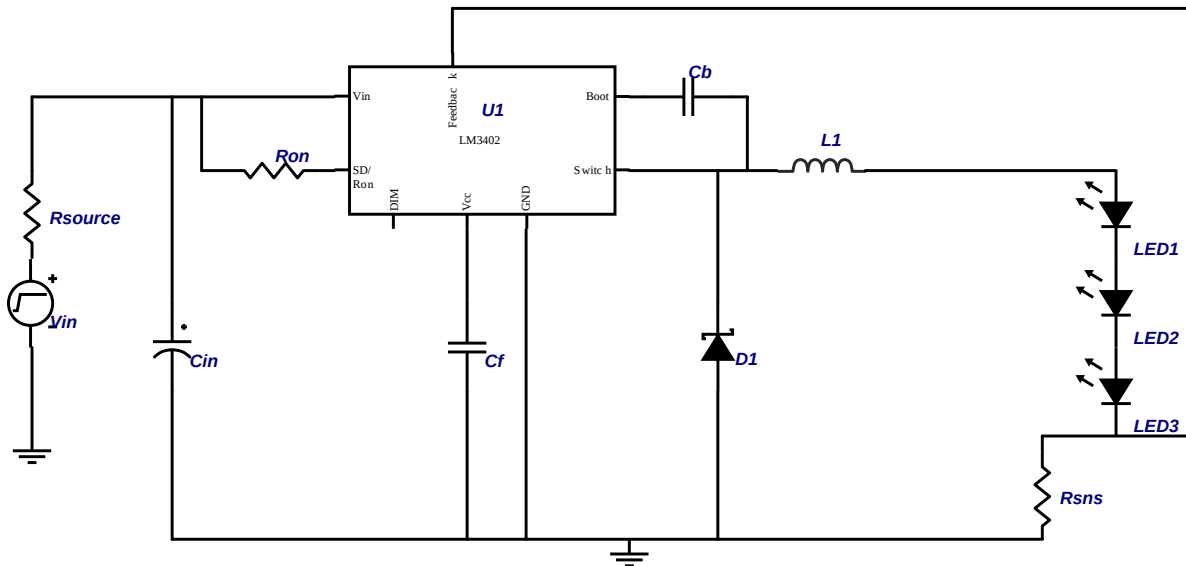
2.0 Design Description

This circuit has been designed to drive a string of three InGaN LEDs (total $V_o = 10.7V$) at a forward current of 350 mA $\pm 10\%$ mA with a peak-to-peak ripple current of 140 mA or less. The

input is 14V to 42V, with LED current and switching frequency (700 kHz) centered at $V_{in} = 24V$.

In expectation of fast PWM dimming requirements there is no output capacitor used in this design.

3.0 Schematic



241689_7418_0

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	C3225X7R1H335M	NumCaps=1, 3.3u F
D1	Central Semiconductor	CMSH1-60M	0.5 V
L1	TDK	SLF7045T-101MR75-1PF	150u H, 0.39 Ohms
Ron	Vishay	CRCW08051433F	143k Ohms
Rsns	Panasonic	ERJ6BQFR62V	0.62 Ohms
U1	National Semiconductor	LM3402	

Notes

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