LM3402HV Design Document

National Semiconductor
LM3402HV
October 2006

1.0 Design Specifications

Inputs	Outputs #1
VinMin=10	Vout1=7.2
VinMax=75	Iout1=0.350

2.0 Design Description

This circuit has been designed to drive a string of two InGaN white, blue or green LEDs (total Vo = 7.2V) at a forward current of 350 mA +-10% mA with a peak-to-peak ripple current of 50 mA or less. The input is 10V to 75V, with LED current and switching frequency (500 kHz) centered at VIN = 48V.

This design uses a small output capacitor to maintain low ripple current through the LED while allowing higher ripple current in the switch/inductor.

3.0 Schematic

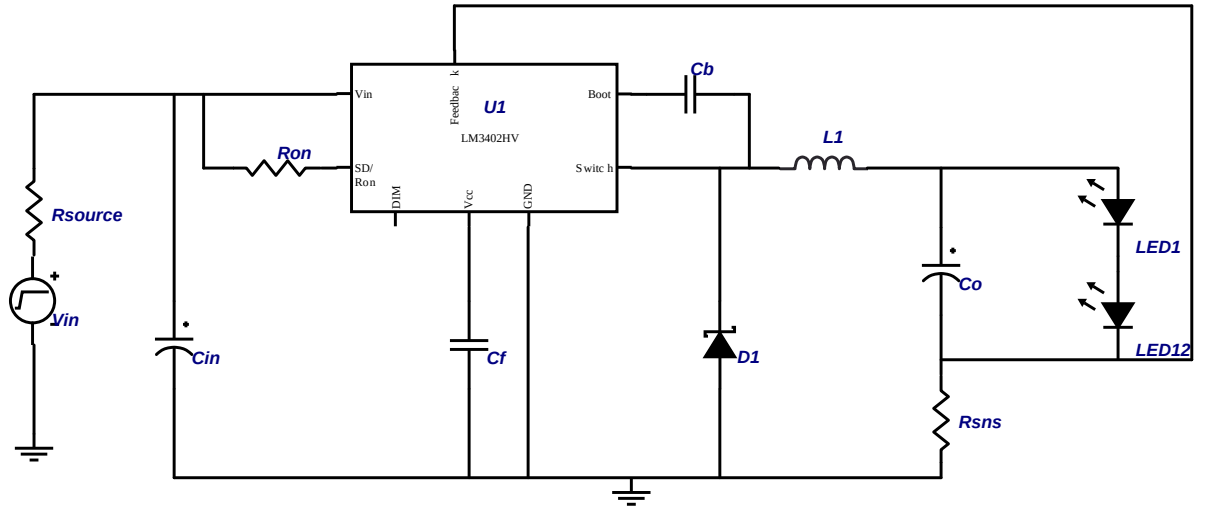

FIGURE 1. Example Schematic Showing Connection for all Components.

4.0 Bill Of Materials

Part	Manufacturer	Part#	Attributes
Cb	Vishay	VJ0805Y103KXXAT	10n F
Cf	Vishay	VJ0805Y104KXXAT	100n F
Cin	TDK	C5750X7R2A335M	NumCaps=1, 3.3u F
Co	Vishay	VJ1206Y154KXXAT	150n F
D1	Central Semiconductor	CMSH1-100M	0.5 V
L1	TDK	SLF10145T-151MR79	150u H, 0.35 Ohms
Ron	Vishay	CRCW08051103F	110k Ohms
Rsns	Panasonic	ERJ6BQFR62V	0.62 Ohms
U1	National Semiconductor	LM3402HV	

Notes

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