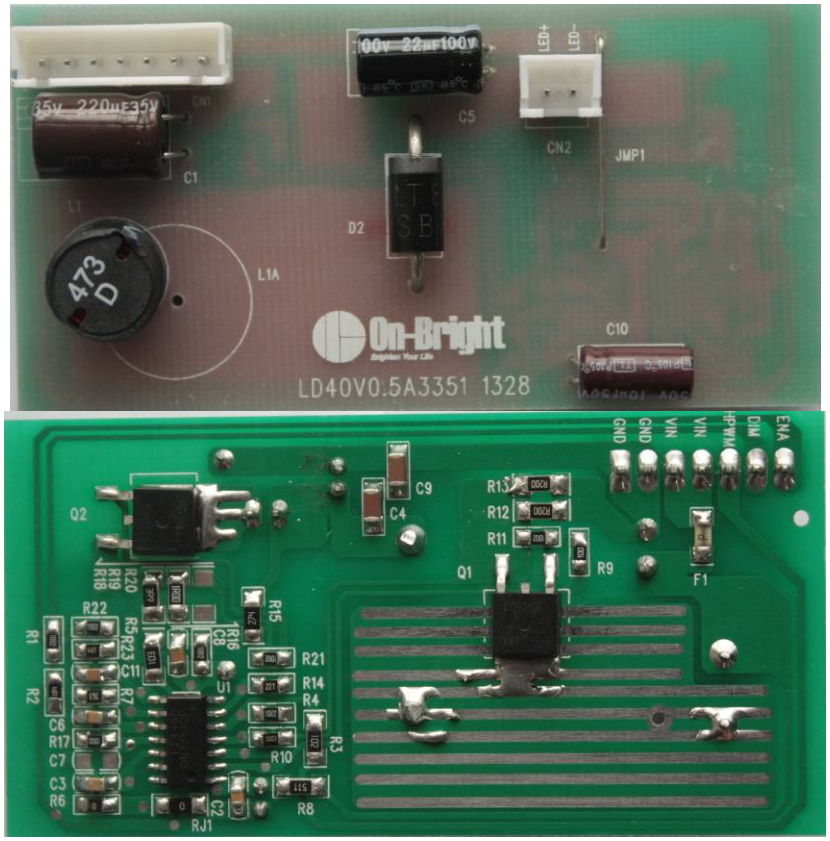


Subject	Board Model: LDB40V0.5A1L_3351.01
1-String LED Demo Board Manual	Doc. No.: OB_DOC_DBM_335101

Description:

The performance of LED backlight power supply for LED backlight application is presented. It is designed with OB3351, a boost LED driver. The detailed block diagram, schematic, BOM, PCB layout and test data are also described.

The test data in this report is by 12 Series 1 Parallel White LED array.

Revision History

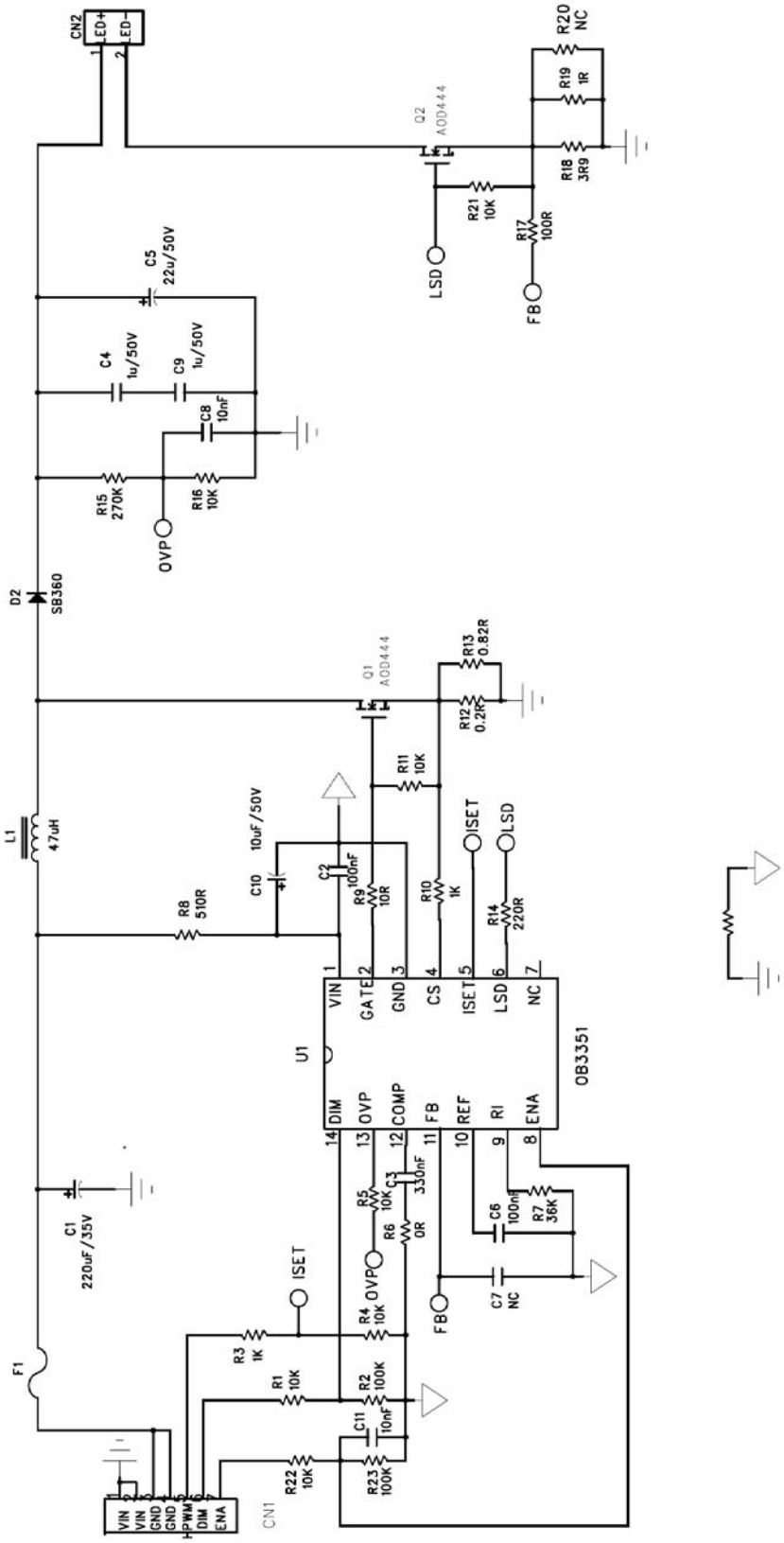
Revise Date	Version	Reason/Issue
2013-07-12	00	First Issue
2013-9-22	01	Update BOM & PIC

1. Board Information

1.1. Features

- 9V to 20V input Voltage Range
- Current mode PWM Controller with good dynamic response
- Reference voltage setting through PWM Duty cycle
- Output over voltage protection, cycle by cycle Over Current Protection, VDD under voltage lockout
- Diode & Inductor & LED short Protection, LED Cathode short GND Protection
- Burst dimming with PWM input
- Wide dimming range from 0% to 100%

1.2. Electrical Schematic



VIN:10.8-13.2V Output LED Parameter: 40V/500mA;
DIM: 200Hz, 0%, Min. Brightness; 100%, Max. Brightness
HPWM: 10Khz, 10%, Min. FB Reference; 100%, Max. FB Reference
ENA: Disable, 0-0.8V; Enable, 2-5V

2. Test Data & Waveform

2.1. Test Data Summary

2.1.1. Key Item Overview

Item	Symbol	Test result				Spec	Unit	Remark
		LED						
LED Current	I_{OUT}	504.42				475~525	mA	**Pass**
LED Array voltage	V_P	40.60				-	V	--
	L1 (Core)		**Q1**		**D1**	**Spec**	**Remark**	
Thermal	68.8		64.7		58.7	<75℃	**Pass**	
	V_{IN}（V）	**I_{IN}(A)**	**P_{IN}(W)**	**P_{OUT}(W)**	**Efficiency**	**Spec**	**Remark**	
Efficiency	12.14	1.86	22.58	20.48	90.70	>85%	**Pass**	

Note: VIN=12V, under 25℃ ambient with 12S1P white LED array.

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