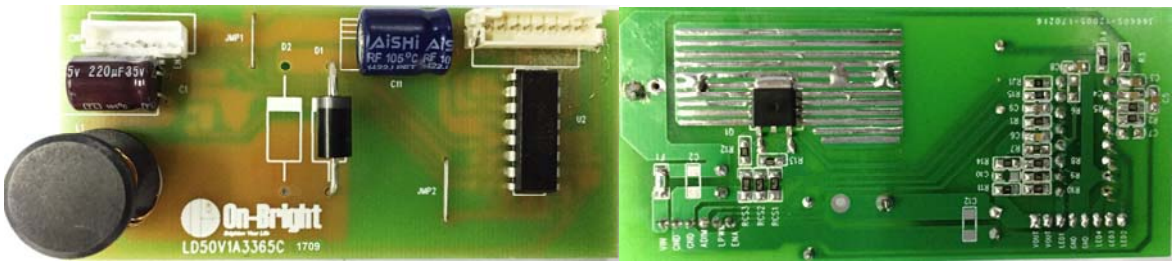


Subject **4-Strings LED Demo Board Manual**	Board Model: LD50V1.0A3365C.00 Doc. No.: OB_DOC_DBM_A_3365C00

Description:

The performance of LED backlight power supply for LCD monitor backlight application is presented. It is designed with OB3365C which integrates a boost converter and 4 channels of current source optimized to drive LED arrays. The detailed block diagram, schematic, BOM, PCB layout and test data are also described.

The test data in this report is by 17Series 4Parallel White LED array.

Revision History

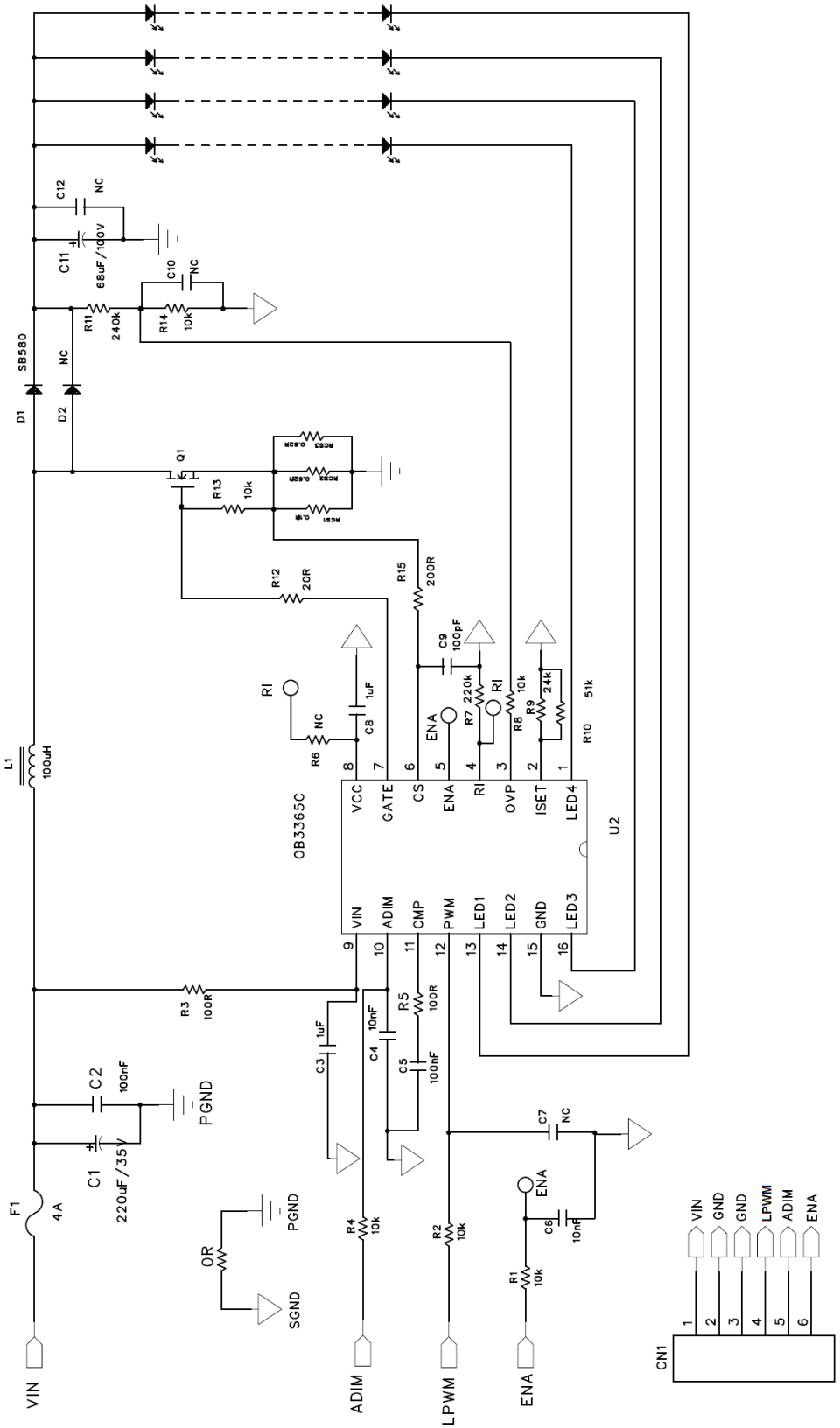
Revise Date	Version	Reason/Issue
2017-04-20	00	First Issue

1. Board Information

1.1. Features

- ±1.5%matching accuracy between 4 LED strings current（100% brightness）
- Up to 250mA current capability per string
- 12V gate drive, better MOS compatibility
- Programmable operating frequency
- PWM and analog combination dimming
- Support 3 channel operation
- Thermal foldback function for LED output current control
- Comprehensive protections coverage covers output open, LED short /open, OVP, Diode/Inductor short, LEDX short to GND，OTP etc.

1.3. Electrical Schematic



2. Test Data & Waveform

3.1 Test Data Summary

3.1.1 Key Item Overview

Item	Symbol	Test result				Spec	Unit	Remark
		LED1	LED2	LED3	LED4			
LED Current	I_{OUT}	249.4	251.4	250.2	250	237.5-262.5	mA	**Pass**
LED Array voltage	V_P	52.3	51.5	52.39	52.4	50	V	--
LED Current Matching		0.40%				<1.5%		**Pass**

	V_{IN}（V）	I_{IN}(A)	P_{IN}(W)	P_{OUT}(W)	Efficiency	Spec	Remark
Efficiency	23.99	2.35	56.38	52.20	92.59%	>85%	**Pass**

	L1 (Core)	Q1	U2 (OB3365C)	D1
Thermal	67.2℃	67.1℃	85.1℃①	68.7℃

Note: VIN=24V, under 25℃ ambient with 17S4P white LED array.

① *This temperature is under IC power loss is 1.15W*

Disclaimer

On-Bright Electronics reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its documents, products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete.