

Subject
1-String LED Demo Board Manual

Board Model: LD90V0.5A3358.00
 Doc. No.: OB_DOC_DBM_335801

Description:

The performance of LED backlight power supply for LCD backlight application is presented. It is designed with OB3358, a boost LED driver. The detailed schematic, BOM, PCB layout and test data are also described.

The test data in this report is by White LED array.

Revision History

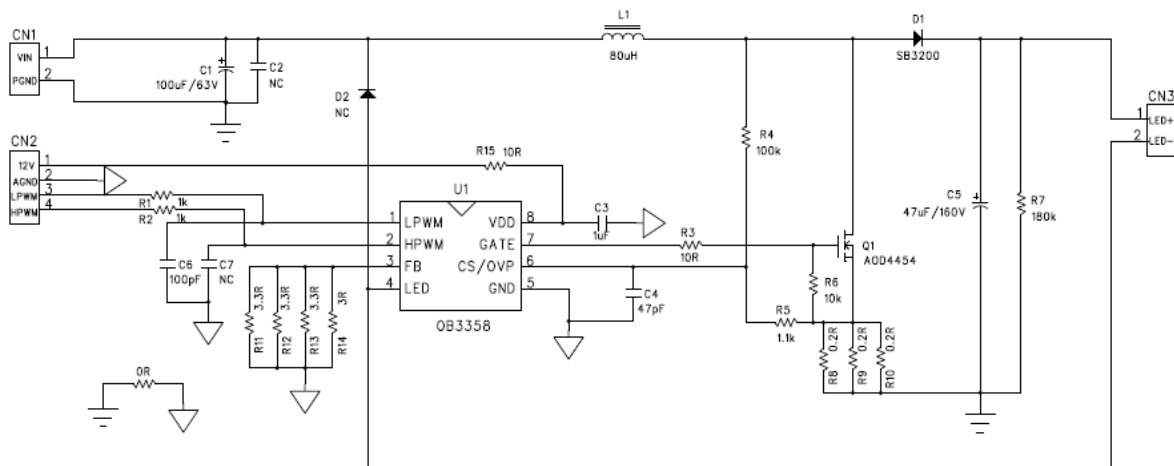
Revise Date	Version	Reason/Issue
2020-04-08	00	First Issue
2020-07-06	01	Optimize PCB and BOM

1. Board Information

1.1. Features

- Current mode PWM controller with good dynamic response
- Low system cost and high efficiency
- Support LPWM and HPWM to analog combination dimming
- Output over voltage protection (OVP), LED string short protection
- LED cathode to GND short protection, LED cathode to FB short protection
- Cycle by cycle over current protection (OCP), diode/inductor short protection
- VDD under voltage lockout (UVLO), over temperature protection (OTP)

1.2. Electrical Schematic



2. Test Data & Waveform

1.1. Test Data Summary

1.1.1. Key Item Overview

Item	Symbol	Test result				Spec	Unit	Remark
		LED						
LED Current	I_{LED}	495.3				475~525	mA	Pass
LED Array voltage	V_{LED}	88.33				-	V	--
	L1 (Core)	L1 (Wire)	Q1	D1	U1	Spec	Remark	
Thermal	78.1	85.5	67.1	69.1	67.2	<90°C	Pass	
	V_{IN} (V)	I_{IN} (A)	P_{IN} (W)	P_{OUT} (W)	Efficiency	Spec	Remark	
Efficiency	48	0.956	45.89	43.75	95.3%	>90%	Pass	

Note: V_{IN} =48V, under 40°C ambient with 90V white LED array.

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