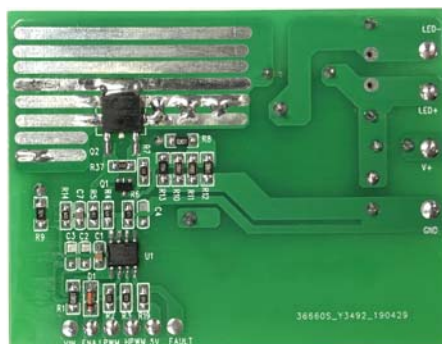




**Subject**  
**OB3375 Demo Board Manual**

Board Model: LD240V0.55A3375.00  
 Doc. No.: OB\_DOC\_DBM\_337502

**Description:**

The performance of LED backlight power supply for LCD backlight application is presented. It is designed with OB3375 which integrates a buck converter. 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

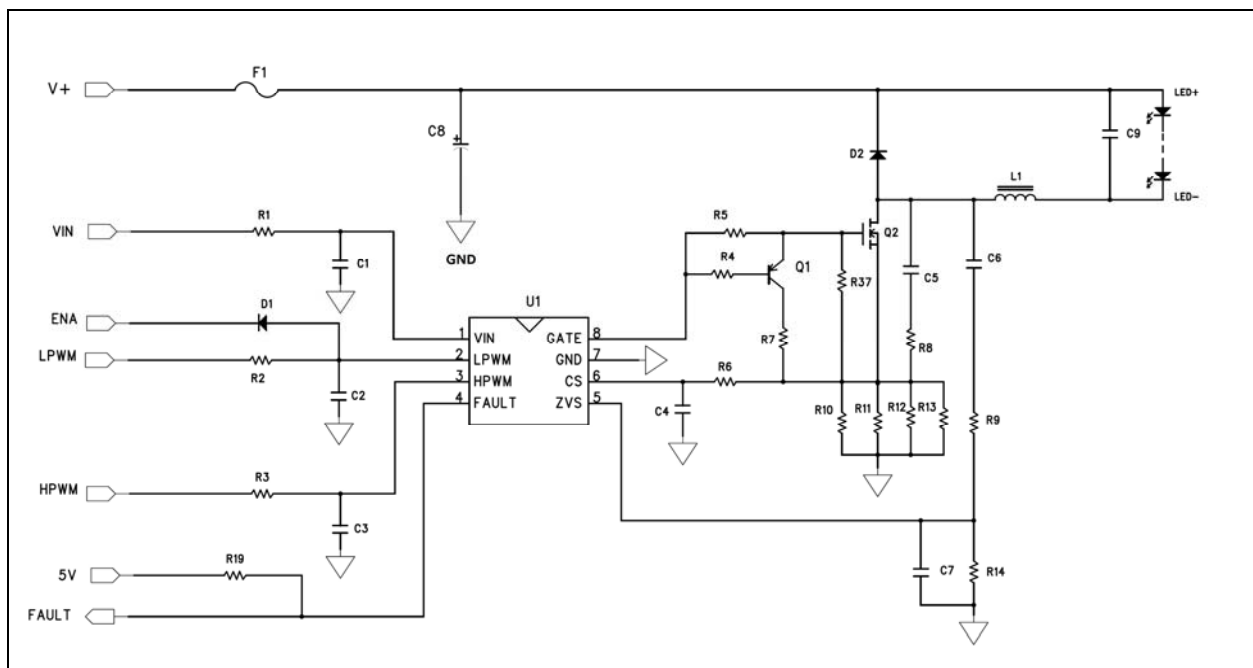
| Revise Date | Version | Reason/Issue                                |
|-------------|---------|---------------------------------------------|
| 2019-05-6   | 00      | First Issue                                 |
| 2019-06-19  | 01      | Update BOM                                  |
| 2020-09-5   | 02      | Update Dimming Data and Protection Waveform |

## 1. Board Information

### 1.1. Features

- Low system cost and high efficiency
- PWM and PWM to Analog combination dimming
- Comprehensive protections coverage covers LED open, LED+ to LED- short, LED- to GND short, Diode/Inductor short, MOSFET drain to source short, OTP etc.
- No visible flicker and audio noise free

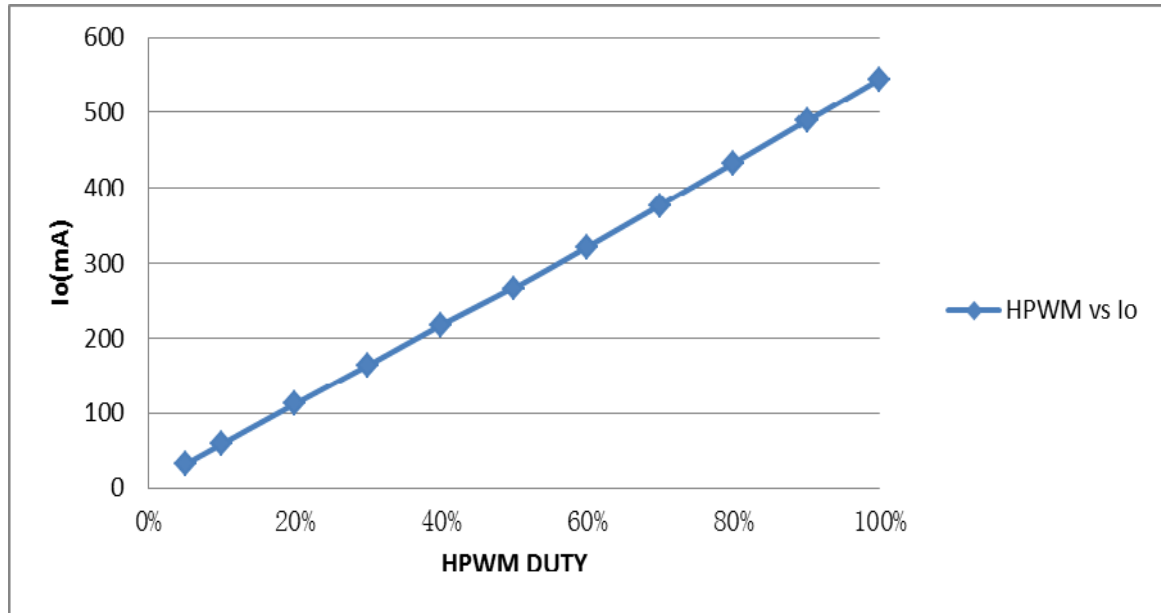
### 1.2. Electrical Schematic



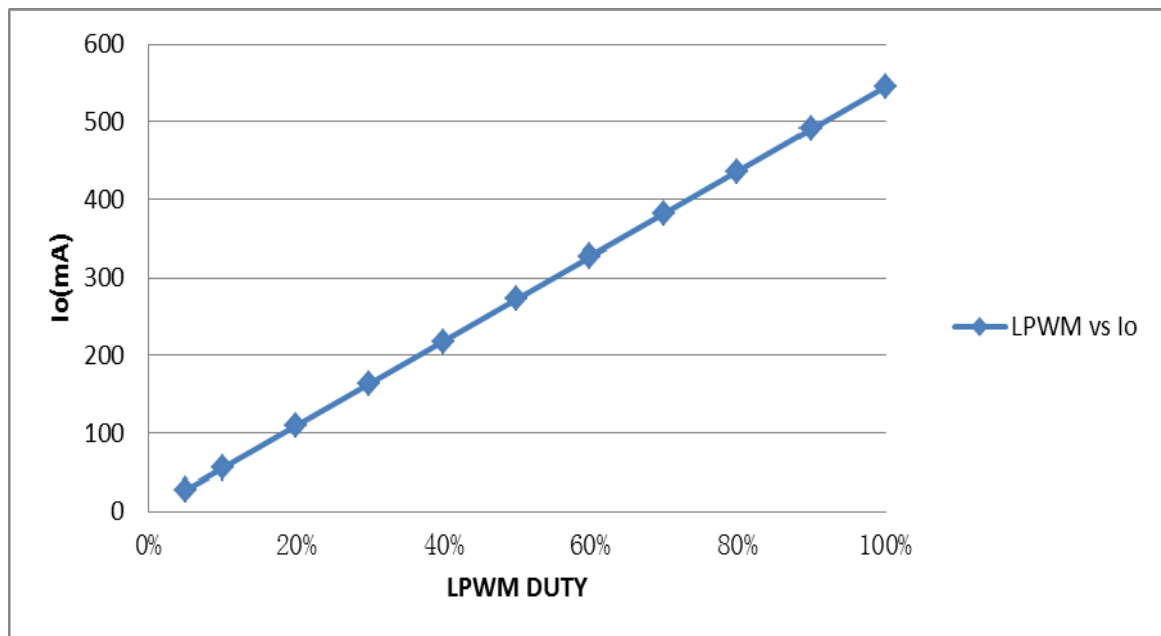
## 2. Test Data & Waveform

### 3.1 LED Current regulation

#### 3.1.1 HPWM 15khz dimming @ LPWM 100%



#### 3.1.2 LPWM 200Hz dimming @ HPWM 100%



### 3.1.3 Steady state

| Io(A)           | VIN=270V | VIN=280V | VIN=290V | Precision VS VIN |
|-----------------|----------|----------|----------|------------------|
| Vout=100V       | 0.551    | 0.550    | 0.549    | 0.90%            |
| Vout=240V       | 0.556    | 0.555    | 0.551    | 0.36%            |
| Precision VS Vo | 0.90%    | 0.87%    | 0.36%    |                  |

### 3.1.4 Efficiency Test

|           | VIN=270V | VIN=280V | VIN=290V |
|-----------|----------|----------|----------|
| Vout=100V | 94.87%   | 94.85%   | 94.65%   |
| Vout=240V | 97.90%   | 97.80%   | 97.70%   |

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