PA5910 20V EB

Evaluation Board for PA5910

FEATURES

- 20V Operation
- 3 LED series driving

APPLICATIONS

- High Brightness LED Driving
- Lighting
- Outdoor Lighting

GENERAL DESCRIPTION

The PA5910 20V, 4W application features a 3 LED operation in a buck configuration.

The board features headers for connecting an ammeter to measure the current going through the LED.

The board features headers to control the enable pin feature of the 5910. Changing the frequency applied to the enable pin will allow different currents to flow through the LED.

EVALUATION BOARD LAYOUT

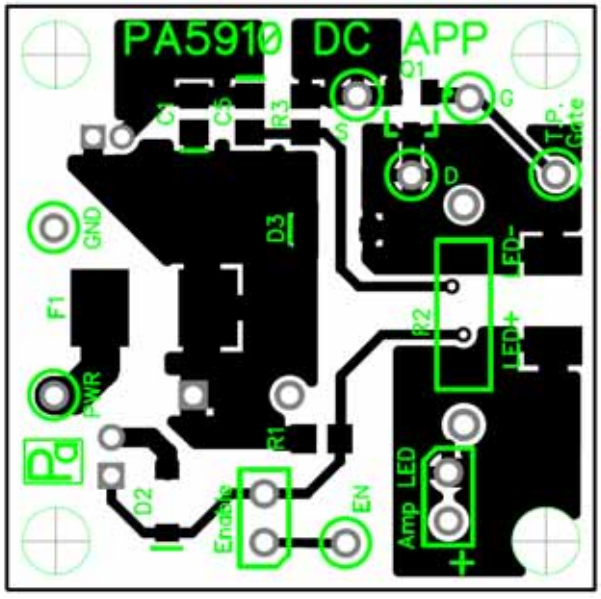


Figure 1: Board Layout – Top View

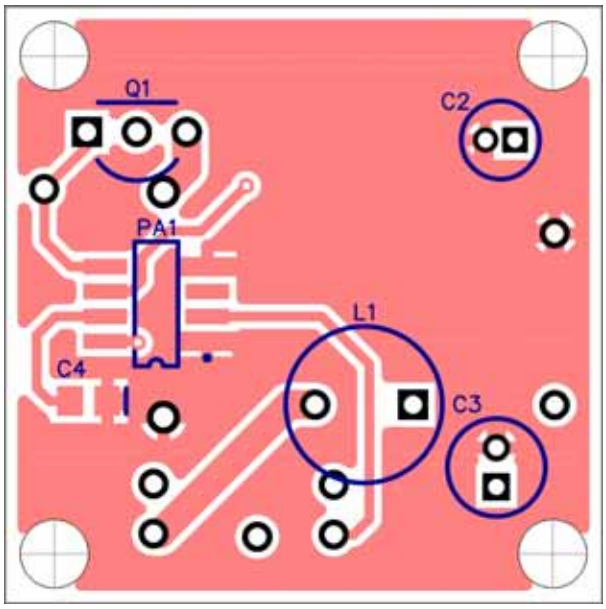


Figure 2: Bottom View

COMPONENT LIST

Designation	Qty	Description
C1	1	.1uF electrolytic capacitor
C2	1	10uF electrolytic capacitor
C3	1	4.7uF electrolytic capacitor
C4	1	33pF capacitor
C5	1	.01uF capacitor
D2	1	5.1V Zener Diode
D3	1	40V Schottky Diode
F1	1	1A Fuse
L1	1	.1mH inductor
PA1	1	PA5910 LED driver
Q1	1	Power MOSFET
R1	1	1K ohm resistor
R2	1	.5 ohm resistor
R3	1	100 ohm resistor

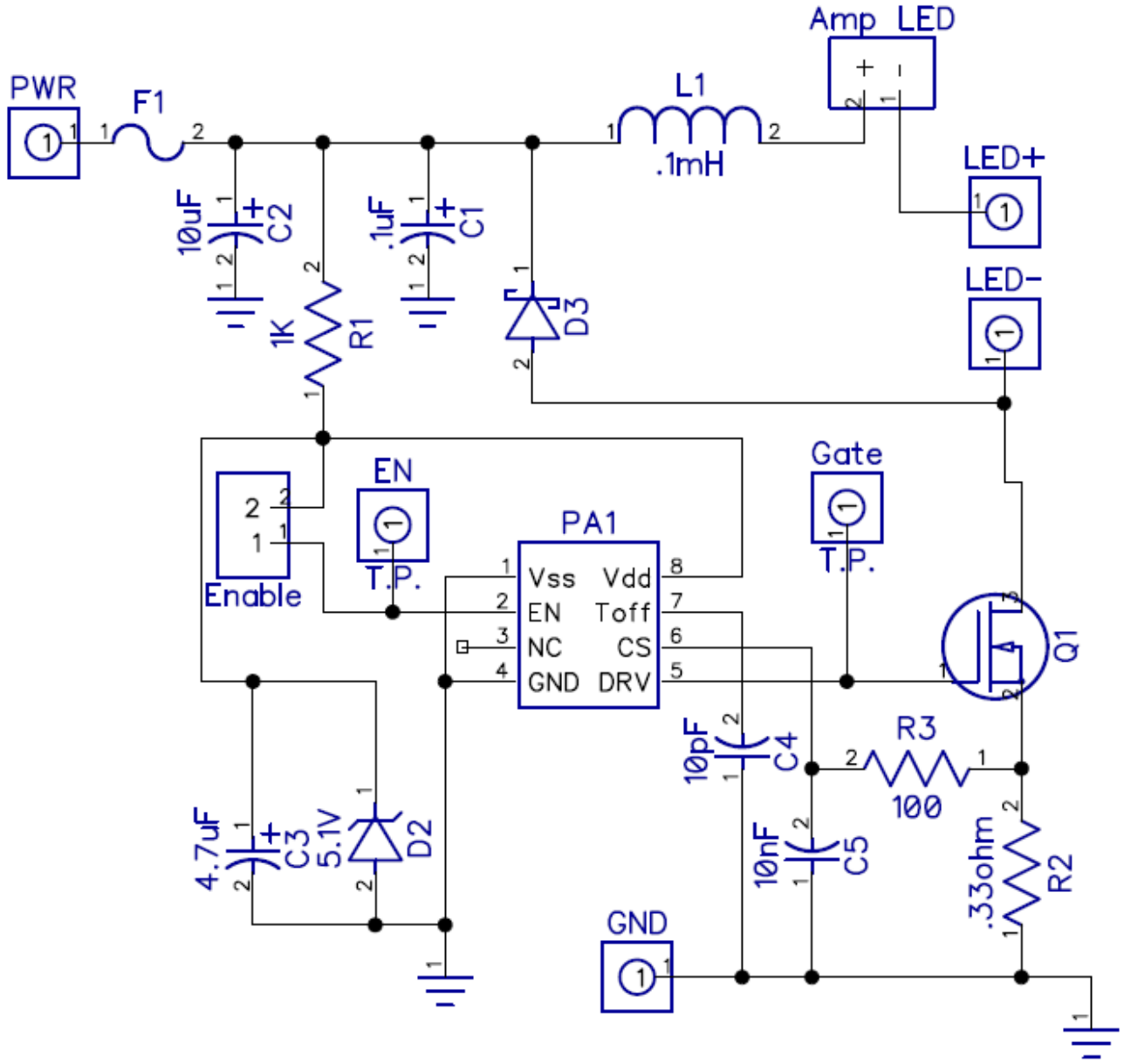
REQUIRED EQUIPMENT

- PA5910 DC Evaluation Board
- 20V (Minimum 1A capability) DC power supply
- 3 LED's 3.6V, (recommended part # EHP-AX08ES/CT01C-P03)
- Optional: Oscilloscope to measure the frequency on the Drive Pin. Bandwidth minimum 1MHz.

PROCEDURE

1. Connect the anode of the LED to the LED+ pad. Connect the cathode of the LED to the LED- pad. Ensure proper heat sink is used to dissipate heat on the LED.
2. Connect a jumper on the headers marked Enable. Connect a jumper on the headers marked Amp LED.
3. Connect the Power and GND from the power supply to the Power and GND headers.
4. Turn on power supply, to 20V, and don't stare directly at the LED's.
5. To measure the frequency at the gate of the MOSFET, connect a probe to the TP gate Pin. This is helpful if using an external frequency on the Enable pin.
6. **Caution**: If using an external frequency to increase the amount of current flowing in the circuit, there is a fuse which limits the current to 1 A.

SCHEMATIC


Amp LED
PWR
F1
L1
.1mH
LED+
LED-
10uF
C2
.1uF
C1
1K
R1
D3
Gate
EN
T.P.
PA1
Vss
Vdd
EN
Toff
NC
CS
GND
DRV
Enable
Q1
10pF
C4
R3
100
4.7uF
C3
5.1V
D2
10nF
C5
.33ohm
R2
GND