

FEATURES

- 3.3-5V Operation
- LED's on board
- Analog Voltage Backlight Control
- Logic Voltage Backlight Control
- Inherently matched LED current
- Over-voltage protection

APPLICATIONS

- LED series and parallel applications
- LED Display Panels Backlighting

GENERAL DESCRIPTION

The PA5110EB is an evaluation board based on a backlighting application using 8 parallel, 3 series configuration.

Use an ammeter on J4 to measure the total current through the LED configuration and divide by 8 to get the string current.

PA5110EB also has the ability to connect an analog voltage to FB for voltage control. Use J3 and connect a resistor to R6 to get into the analog voltage backlight control.

For J4 and J3, at points labeled "1," a user can connect a different configuration of LED's, different LED part number or both.

The board features the ability to easily connect a PWM signal to CE to control the LED configuration. Use J2 to connect this signal to CE pin to control the logic voltage backlight control.

EVALUATION BOARD LAYOUT

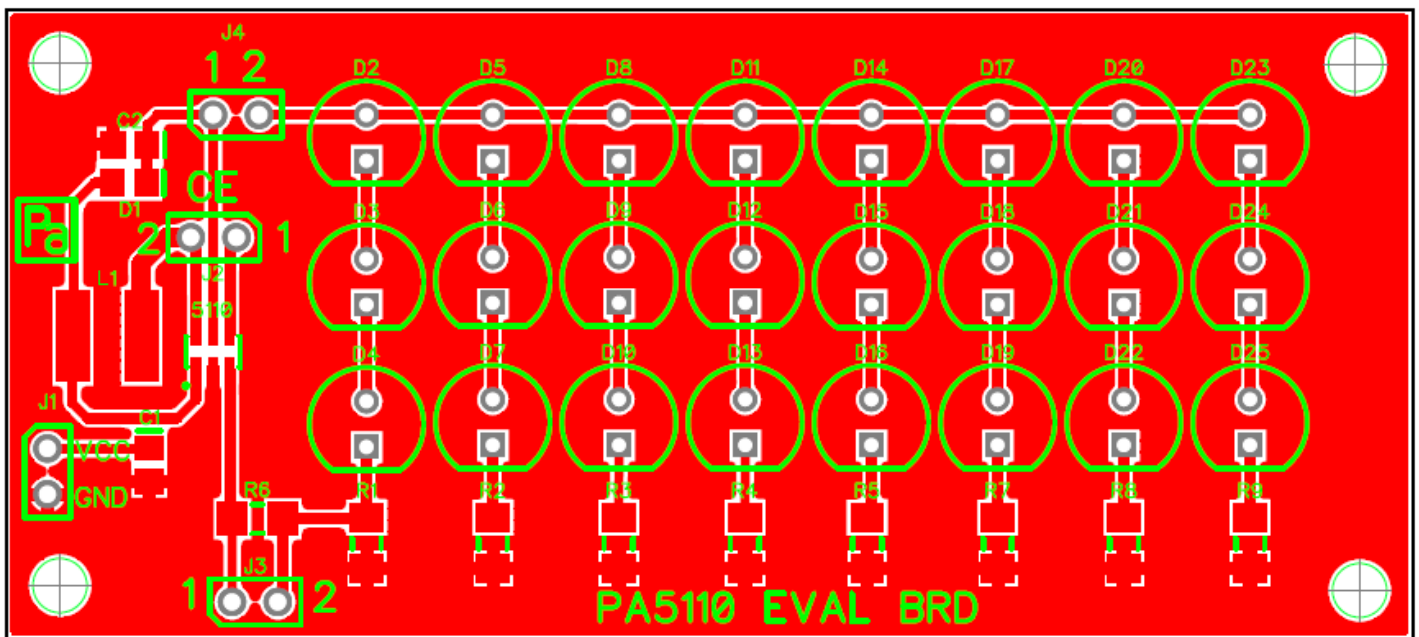


Figure 1: PA5110 Evaluation Board

COMPONENT LIST

Designation	Qty	Description
J1- J4	4	Male Headers
L1	1	Power Inductors 22uH 20% SMD
D1	1	Schottky Vr/40V Io/1A T/R
D2-D25	24	White Water Clear 120mW 5100mcd (PN WP7104VW1C)
C1	1	0805 1uF 50volts
C2	1	0805 0.47uF 50volts
R1-R5	5	Thick Film Resistors 1/4watts 6.2ohms 5%
5110	1	PA5110 Boost LED driver

REQUIRED EQUIPMENT

- PA5110 Evaluation Board
- 3.3-5V, 500mA power supply

OPTIONAL EQUIPMENT/PARTS

- Oscilloscope
- Ammeter
- Configuration of LED's
- Pulse/Function Generator

SCHEMATIC OF THE PA5110 EVALUATION BOARD

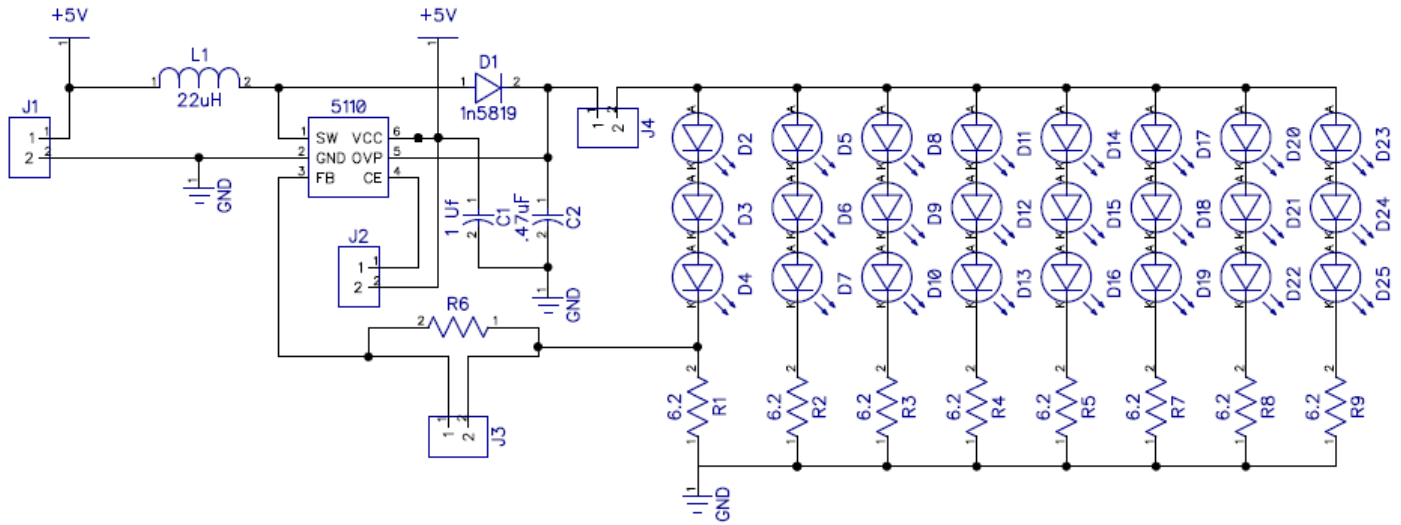


Figure 2: Schematic for PA5110EB

Procedure:

1. Connect power supply to J1 according to labels (+5V to VCC and GND to GND).
2. Jumpers should be on J2, J3, and J4.
3. Turn on power supply and LED's should light up.
4. To measure the current through the LED configuration remove jumper on J4 and connect ammeter positive to J4 (header labeled 1) and ammeter negative to J4 (header labeled 2).

EXAMPLE SETUP FOR USER'S OWN LED CONFIGURATION

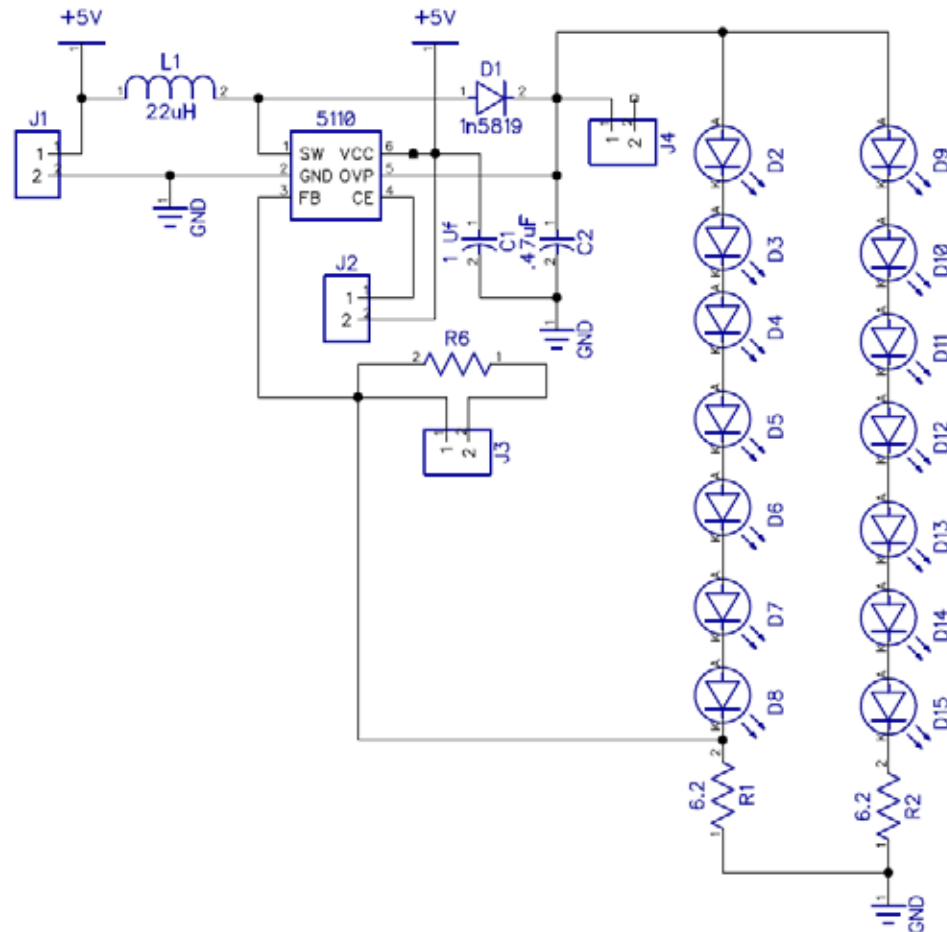


Figure 3: Custom LED configuration for 5110EB

Procedure:

1. Connect power supply to J1 according to labels (+5V to VCC and GND to GND).
2. Disconnect jumpers J3 and J4. Connect anode of LED string to J4 (header labeled 1).
3. Make sure jumper on J2 is still connected
4. Turn on power supply and LED's should light up

Setup Notes:

Example used in Figure 3 is a 7 series 2 parallel LED configuration

Setup may not reflect what is desired, such as inductor value may out of range, or resistor value may need adjustment to get desired LED string current.

SETUP FOR ANALOG VOLTAGE BACKLIGHT CONTROL

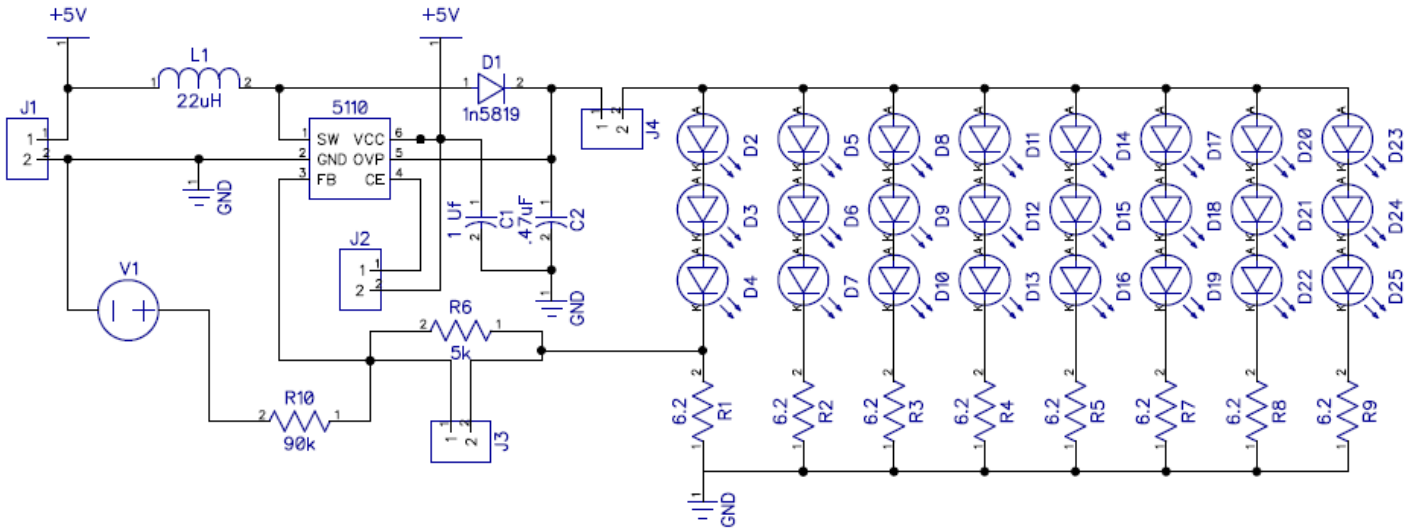


Figure 4: Setup for Analog backlight control for PA5110EB

Procedure:

1. Connect power supply to J1 according to labels (+5V to VCC and GND to GND).
2. Jumpers should be on J2 and J4.
3. Connect a resistor (5k recommended) to R6. Remove jumper on J3.
4. Connect additional voltage supply in series with an additional resistance in order to not damage the PA5110.
5. Turn on power supply and LED's should light up.
6. Adjusting the voltage above 95mV should turn of LED's and below should turn on LED's.

