

Description

IS31FL3236/IS31FL3236A is comprised of 36 constant current channels each with independent PWM control, designed for driving LEDs. The output current of each channel can be set at up to 38mA (Max.) by an external resistor and independently scaled by a factor of 1, 1/2, 1/3 and 1/4. The average LED current of each channel can be changed in 256 steps by changing the PWM duty cycle through an I2C interface.

Features

- 2.7V to 5.5V supply
- I2C interface, automatic address increment function
- Internal reset register
- Modulate LED brightness with 256 steps PWM
- Each channel can be controlled independently
- Each channel can be scaled independently by
- QFN-44 (5mm × 5mm) package

Quick Start



Figure 1: Photo of IS31FL3236/IS31FL3236A Evaluation Board

Recommended Equipment

- 5.0V, 2A power supply

Absolute Maximum Ratings

- $\leq 5.5V$ power supply

Caution: Do not exceed the conditions listed above, otherwise the board will be damaged.

Procedure

The IS31FL3236/IS31FL3236A evaluation board is fully assembled and tested. Follow the steps listed below to verify board operation.

Caution: Do not turn on the power supply until all connections are completed.

- 1) Connect the ground terminal of the power supply to the GND and the positive terminal to the VCC. Or connect the DC power to the connector (DC IN).
- 2) Turn on the power supply and pay attention to the supply current. If the current exceeds 1.2A, please check for circuit fault.
- 3) Enter the desired mode of display by toggling the MODE button.

Evaluation Board Ordering Information

| Part No. | Package |
|----------------------|-------------------|
| IS31FL3236-QFLS2-EB | QFN-44, Lead-free |
| IS31FL3236A-QFLS2-EB | QFN-44, Lead-free |

Table1: Ordering Information

For pricing, delivery, and ordering information, please contacts ISSI's analog marketing team at analog_mkt@issi.com or (408) 969-6600.

Evaluation Board Operation

The IS31FL3236/IS31FL3236A evaluation board has six display modes. Press MODE button to switch configurations.

- 1) (Default mode) The 12 RGB LEDs in the middle of the board show a color changing light bar moving pattern.
- 2) Two groups of blue LED on above display a tailing effect move from right to left.
- 3) Two groups of blue LED on above display a tailing effect move in opposite directions.
- 4) Blue LED on above perform timer display.
- 5) Two groups of blue LED on above flash together from two sides to middle and then turn off slowly from both sides to middle.
- 6) The blue LEDs on above are put into four '8' digits and to show a twist effect.

***Note:**

IS31FL3236/IS31FL3236A solely controls the FxLED function on the evaluation board.

Software support

JP1 default setting is close circuit. If it is set to open, the on-board MCU will stop working. The I2C pins are set to High Impedance. External I2C signals can be connected to TP3 to control the IS31FL3236 LED driver.

Please refer to the datasheet to get more information about IS31FL3236/IS31FL3236A.

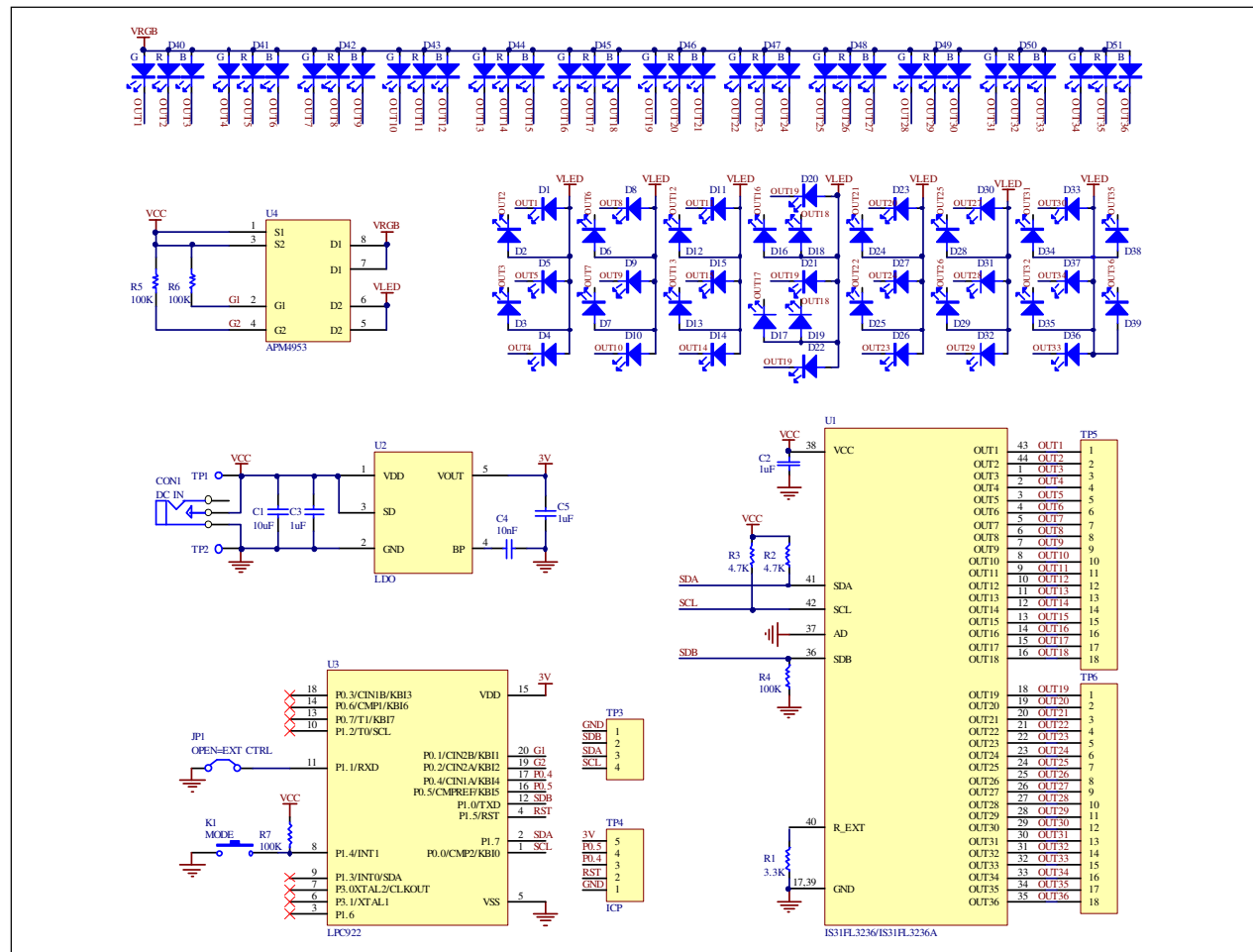


Figure 2: IS31FL3236/IS31FL3236A Application Schematic

Bill of Materials

| Name | Symbol | Description | Qty | Supplier | Part No. |
|------------|----------|------------------------|-----|-----------|------------------------|
| LED Driver | U1 | 36 CH FxLED Driver | 1 | ISSI | IS31FL3236/IS31FL3236A |
| LDO | U2 | Low-dropout Regulator | 1 | PAM | PAM3101 |
| MCU | U3 | Microcontroller | 1 | NXP | LPC922 |
| PMOS | U4 | Dual PMOS | 1 | ANPEC | APM4953 |
| Diode | D1~D39 | Diode, LED Blue, SMD | 39 | Everlight | 19-217/BHC-ZL1M2RY/3T |
| Diode | D40~D51 | Diode, LED RGB, SMD | 12 | Everlight | 99-235/RGBC/TR8 |
| Resistor | R1 | RES,3.3k,1/16W,±5%,SMD | 1 | Yageo | RC0603JR-073K3L |
| Resistors | R2~R3 | RES,4.7k,1/16W,±5%,SMD | 2 | Yageo | RC0603JR-074K7L |
| Resistors | R4~R7 | RES,100k,1/16W,±5%,SMD | 4 | Yageo | RC0603JR-07100KL |
| Capacitor | C1 | CAP,10μF,16V,±20%,SMD | 1 | Yageo | CC0603KKX7R9BB106 |
| Capacitors | C2,C3,C5 | CAP, 1μF,16V,±20%,SMD | 3 | Yageo | CC0603KKX7R9BB105 |
| Capacitor | C4 | CAP,10nF,16V,±20%,SMD | 1 | Yageo | CC0603KKX7R9BB103 |
| Button | K1 | Button SMD | 1 | | |

Table 2: Bill of Materials, refer to Figure 2 above.

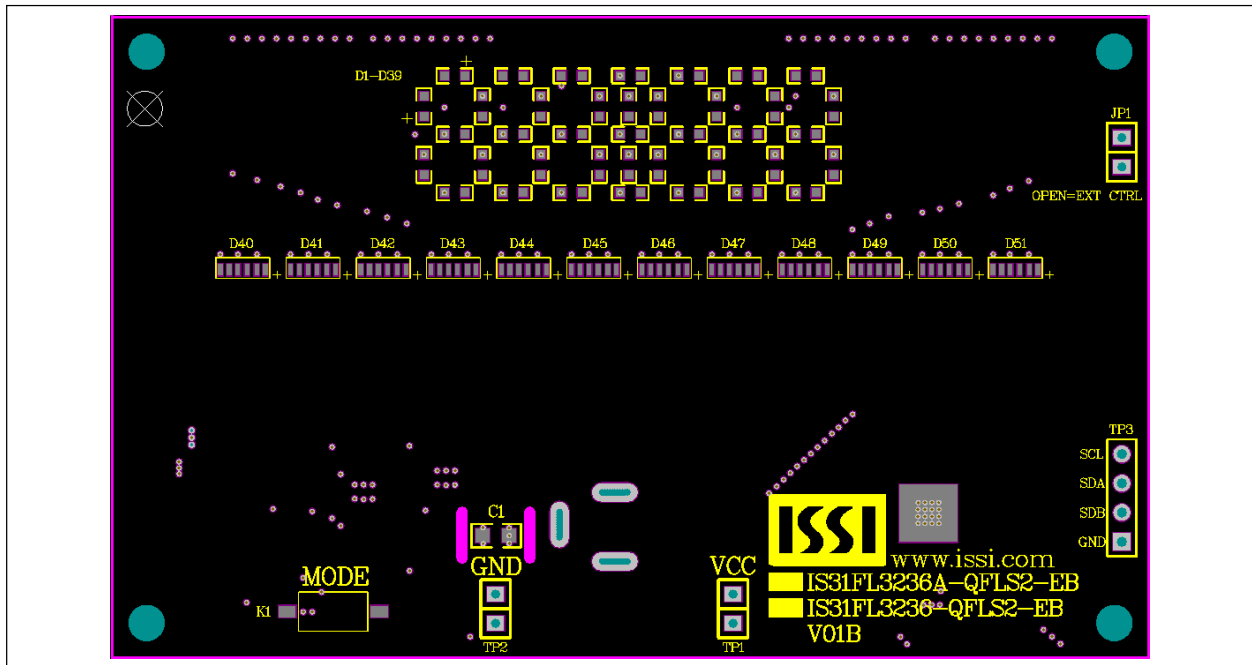


Figure 3: Board Component Placement Guide -Top Layer

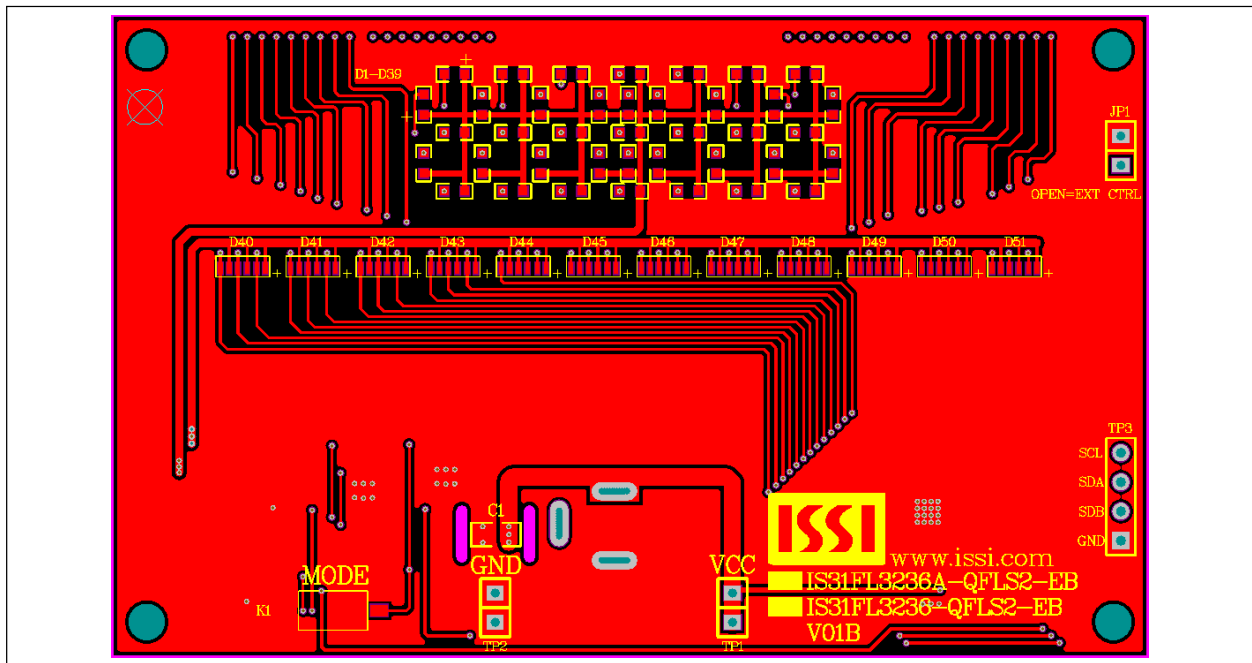


Figure 4: Board PCB Layout- Top Layer

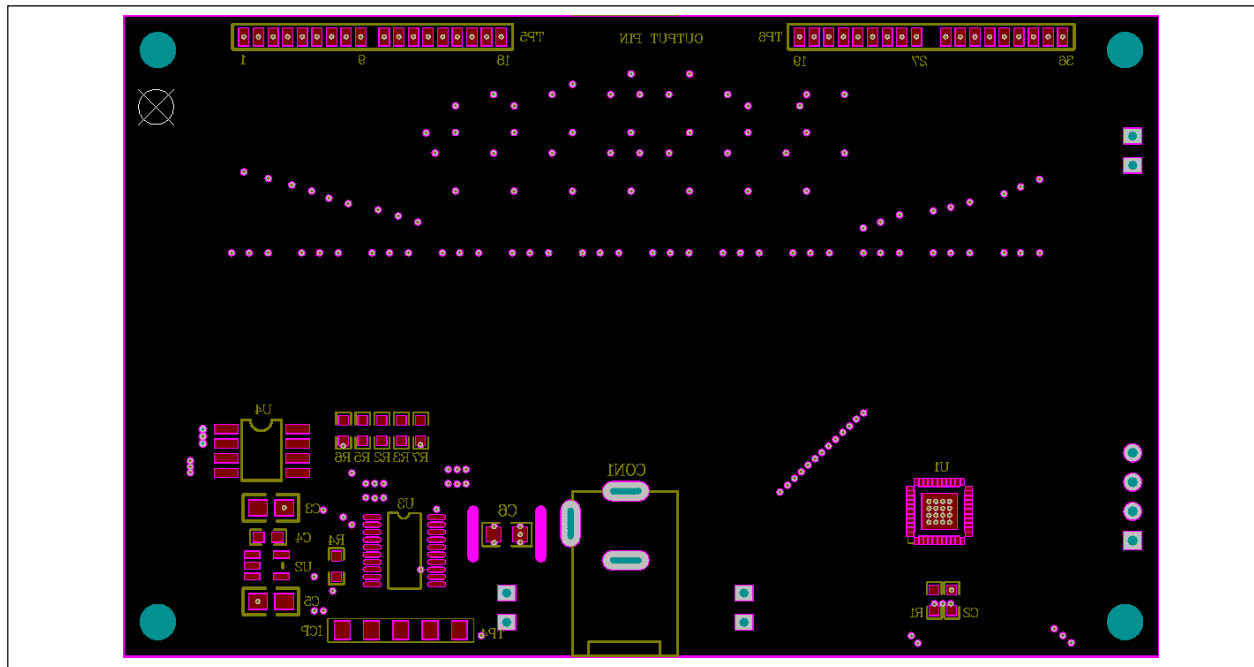


Figure 5: Board Component Placement Guide -Bottom Layer

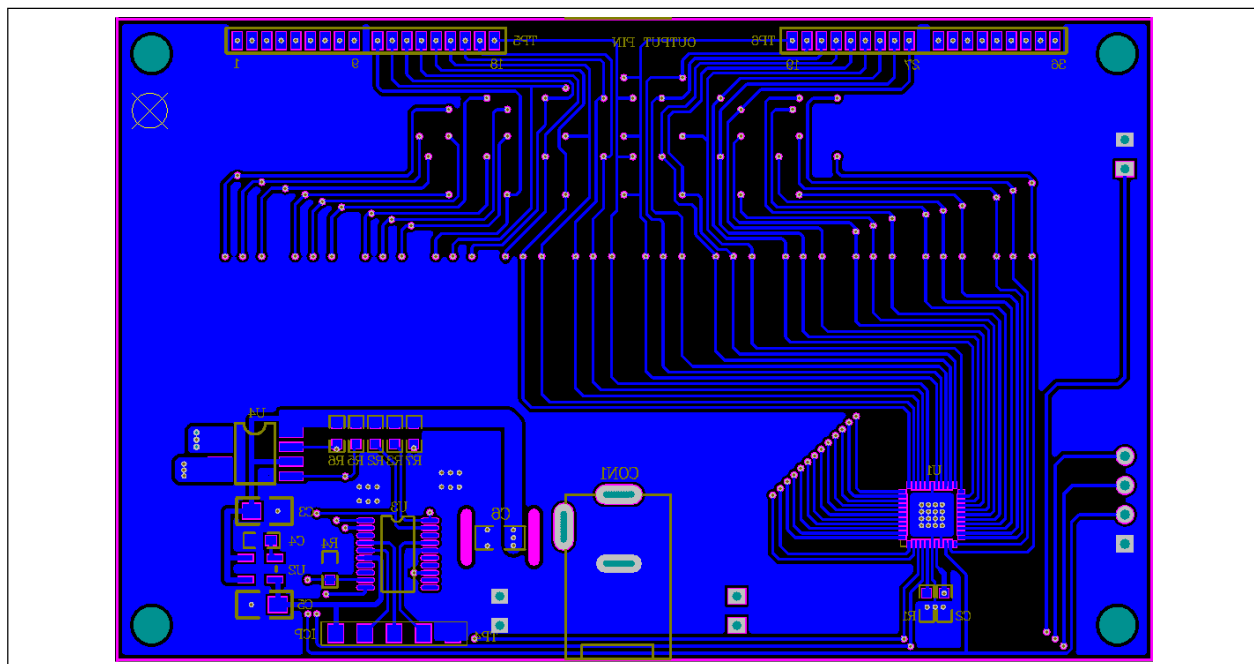


Figure 6: Board PCB Layout-Bottom Layer



REVISION HISTORY

| Revision | Detail Information | Data |
|----------|--------------------|------------|
| A | Initial Release | 2016.11.18 |

Copyright © 2016 Integrated Silicon Solution, Inc. All rights reserved. ISSI reserves the right to make changes to this specification and its products at any time without notice. ISSI assumes no liability arising out of the application or use of any information, products or services described herein. Customers are advised to obtain the latest version of this device specification before relying on any published information and before placing orders for products.

Integrated Silicon Solution, Inc. does not recommend the use of any of its products in life support applications where the failure or malfunction of the product can reasonably be expected to cause failure of the life support system or to significantly affect its safety or effectiveness. Products are not authorized for use in such applications unless Integrated Silicon Solution, Inc. receives written assurance to its satisfaction, that:

- a.) the risk of injury or damage has been minimized;
- b.) the user assume all such risks; and
- c.) potential liability of Integrated Silicon Solution, Inc is adequately protected under the circumstances

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru