



ZHEJIANG UNIÜ-NE Technology CO., LTD

浙江宇力微新能源科技有限公司



U3501C Data Sheet

V 1.1

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60V Input, Switching Current Limit Step-Down Converter

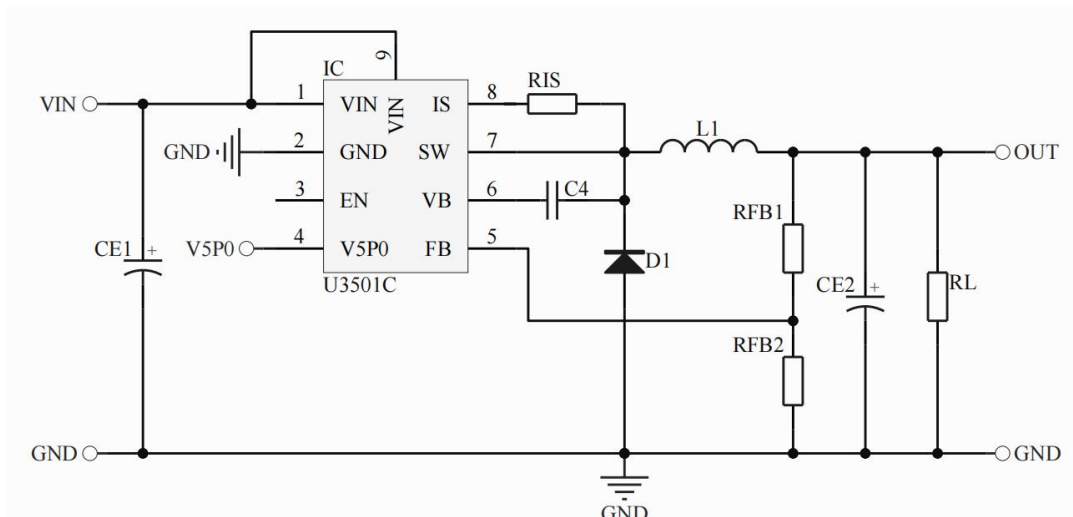
General Description

The U3501C is a high voltage, step-down, switching regulator built-in MOSFET. It integrates a high-side, high-voltage, power MOSFET with a current limit of 5A(I_{PK}) typically. The input ranges accommodates a variety of step-down applications, making it ideal for automotive, industry, and lighting applications. Hysteretic voltage-mode control is employed for very fast response. UNI's proprietary feedback control scheme minimizes the number of required external components.

The switching frequency is 150KHz, allowing for small component size. Thermal shutdown and short-circuit protection (SCP) provide reliable and fault-tolerant operations. Low quiescent current allows the U3501C to be used in battery-powered applications.

The U3501C is available in a ESOP-8 package with an exposed pad.

Simplified Application



Key Features

- Integrated high voltage start circuit
- Integrated 5.5V reference
- Built-In 60V/29 m Ω MOSFET
- Built-in Bootstrap Diode
- Hysteretic Control: No Compensation
- 150KHz Switching Frequency
- PWM Dimming Control Input for step-down Application
- Short-Circuit Protection (SCP) with Integrated High-Side MOSFET
- Low Quiescent Current
- Thermal Shutdown
- Available in a ESOP-8 Package with an Exposed Pad

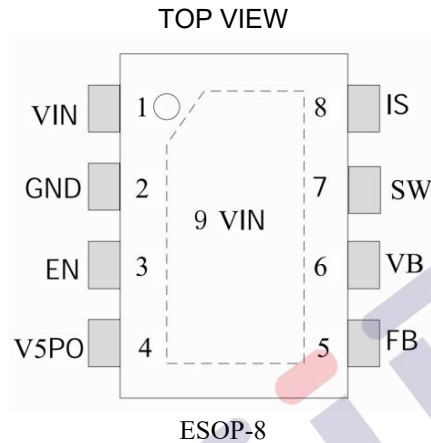
Applications

- Scooters, E-Bike Control Power Supplies
- Solar Energy Systems
- Automotive System Power
- Industrial Power Supplies
- High-Power LED Drivers
- USB

Ordering Information

Part Number	Package	Vo	VIN MAX	IPK	Description
U3501C	ESOP-8	>2V	60V	5A	4000Pcs/Reel

Pin Description

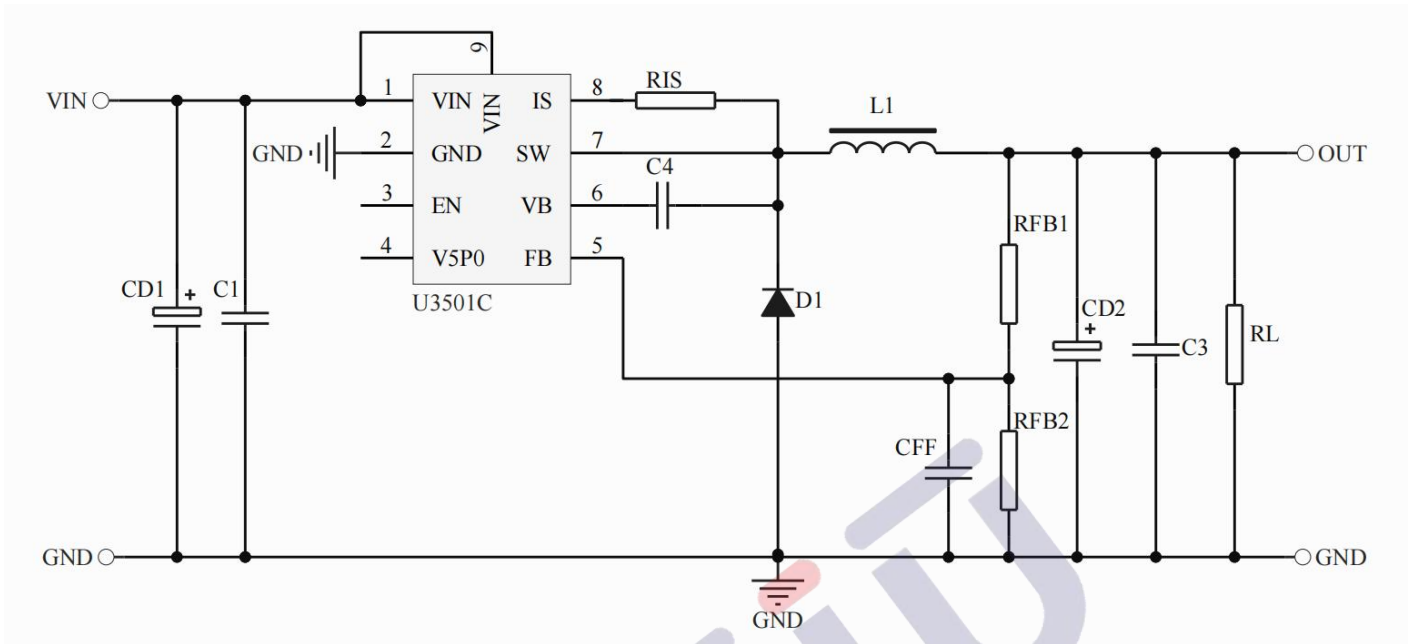


Pin Functions

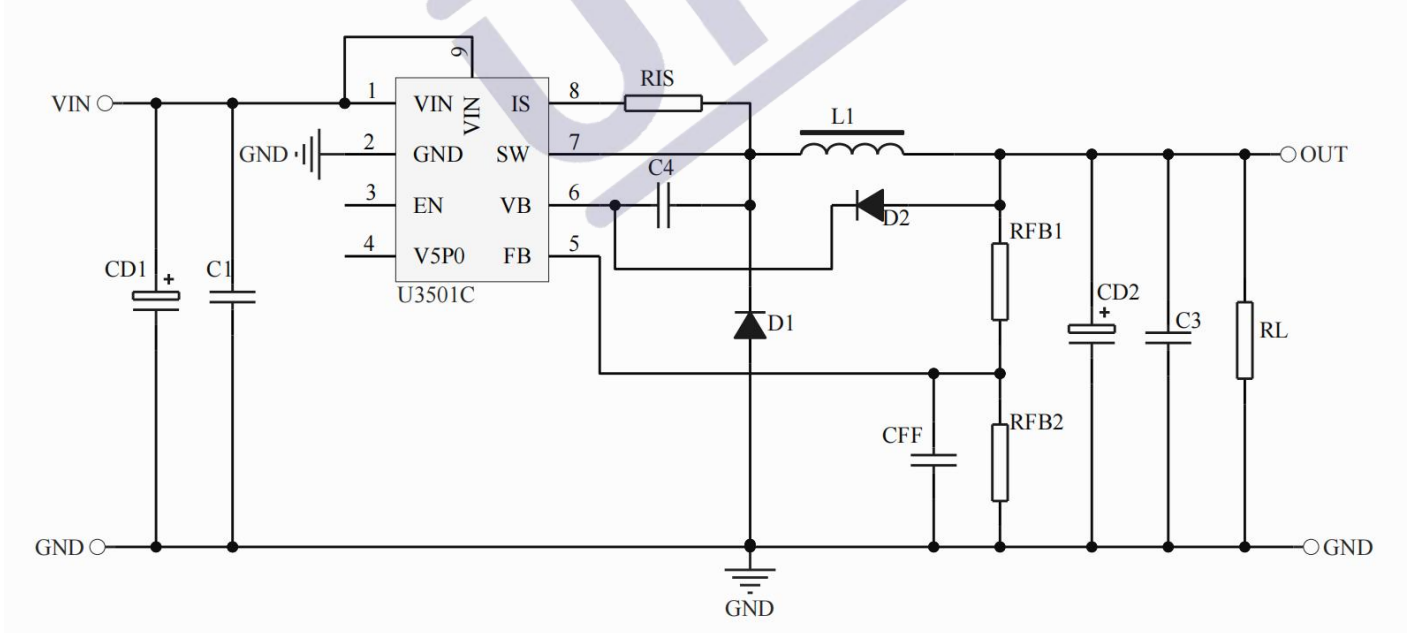
ESOP-8 Pin #	Name	Description
1	VIN	Input supply. VIN supplies power to all of the internal control circuitries.
2	GND	Ground. GND
3	EN	En input. Default suspension, built-in resistance
4	V5P0	The output voltage is 5.5V (Max current is 5mA)
5	FB	Feedback. FB is the input to the voltage hysteretic comparators.
6	VB	VB is the positive power supply for the internal, floating, high-side MOSFET driver. Connect a bypass capacitor between VB and SW.
7	SW	Switch node.
8	IS	Current detection. Current Sensing Input.
9	EP	Input supply. VIN supplies power to all of the internal control circuitries.

Typical Application Circuit

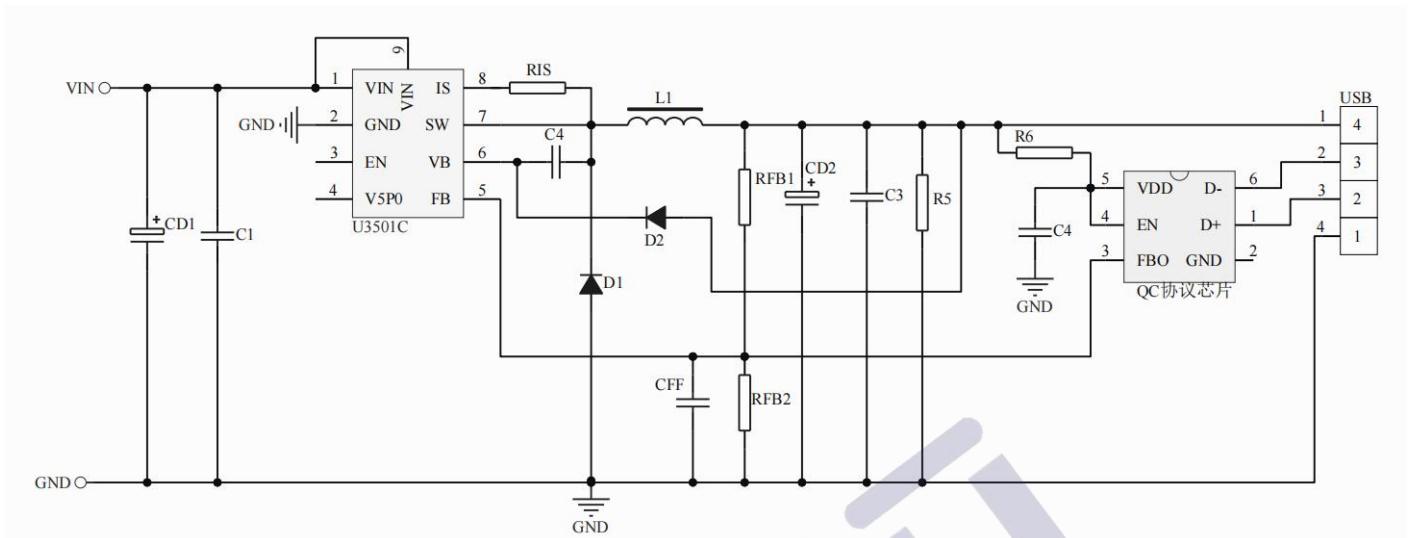
APP1: $V_{OUT} < 10V$



APP2: $V_{OUT} = 10 \sim 15V$



APP3:QC2.0/QC3.0



1. Typical application circuit and parameters for reference, the actual application circuit parameters please set on the basis of measurement, mass production please communicate with the original factory, other unknown please contact our engineers.
2. Input electrolytic capacitor (CE1) and continuous current diode (D1) according to the actual use of voltage, current to adjust.
3. Continuous current diode recommended to use Schottky.

1、版本记录

DATE	REV.	DESCRIPTION
2023/2/25	1.0	首次发布
2023/7/12	1.1	优化参数

2、免责声明

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