
36V, 3A, 160KHz Buck DC/DC Converter With Constant Current Loop

Description

The ME3148 is a 160KHz fixed frequency PWM buck (step-down) DC/DC converter, capable of driving a 3A load with high efficiency, low ripple and excellent line and load regulation. Requiring a minimum number of external components, the regulator is simple to use and include internal frequency compensation and a fixed-frequency oscillator.

The PWM control circuit is able to adjust the duty ratio linearly from 0 to 100%. An enable function, an over current protection function is built inside. An internal compensation block is built in to minimize external component count.

Applications

- Car Charger
- Battery Charger
- Portable instrument power supply
- Buck constant current driver
- Monitor LED Backlighting
- General purpose LED lighting

Features

- Input Voltage Range 8V~36V
- Maximum output current 3A
- Fixed 160KHz Switching Frequency
- Output Adjustable from 1.25V to 33V
- Minimum Drop Out 0.3V
- Internal Optimize Power MOSFET
- Excellent line and load regulation
- With output constant current loop
- Built in OTP,OCP and OVP
- Recommend output power less than 13W

Package

- 8-pin ESOP8

Typical Application (Constant Voltage Charge)

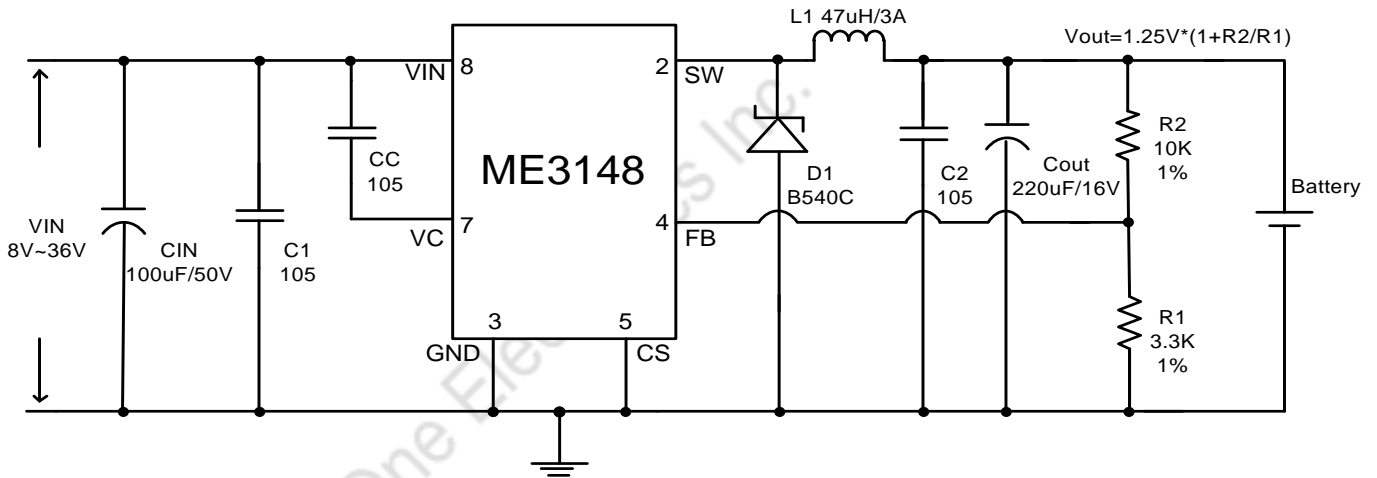


Figure 1. Constant Voltage Charge

Typical Application (Constant Voltage Constant Current Charge)

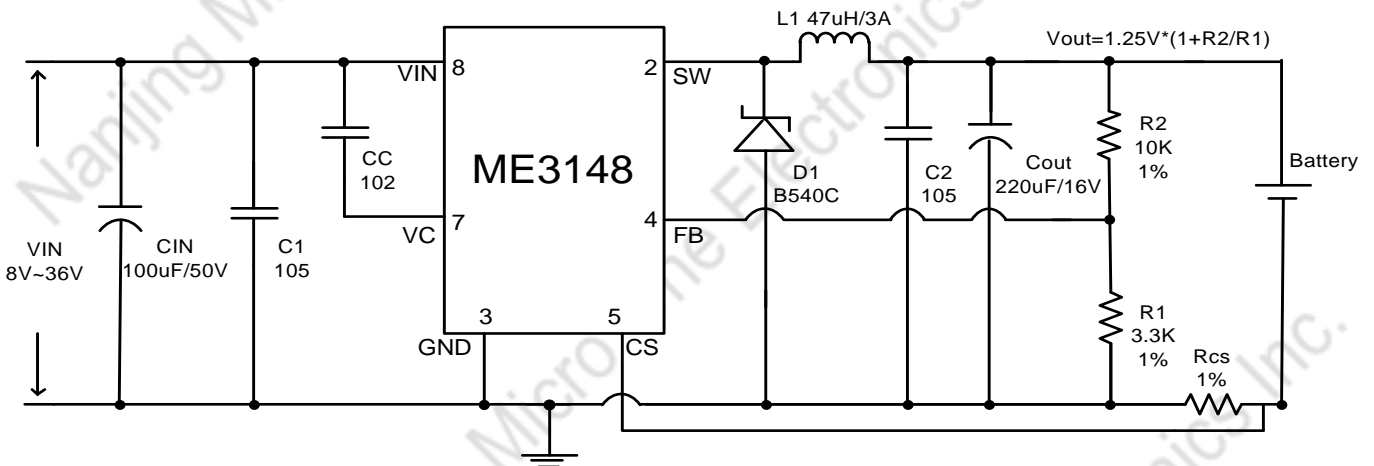


Figure 2. Constant Voltage Constant Current Charge

Typical Application (Constant Current LED Driver)

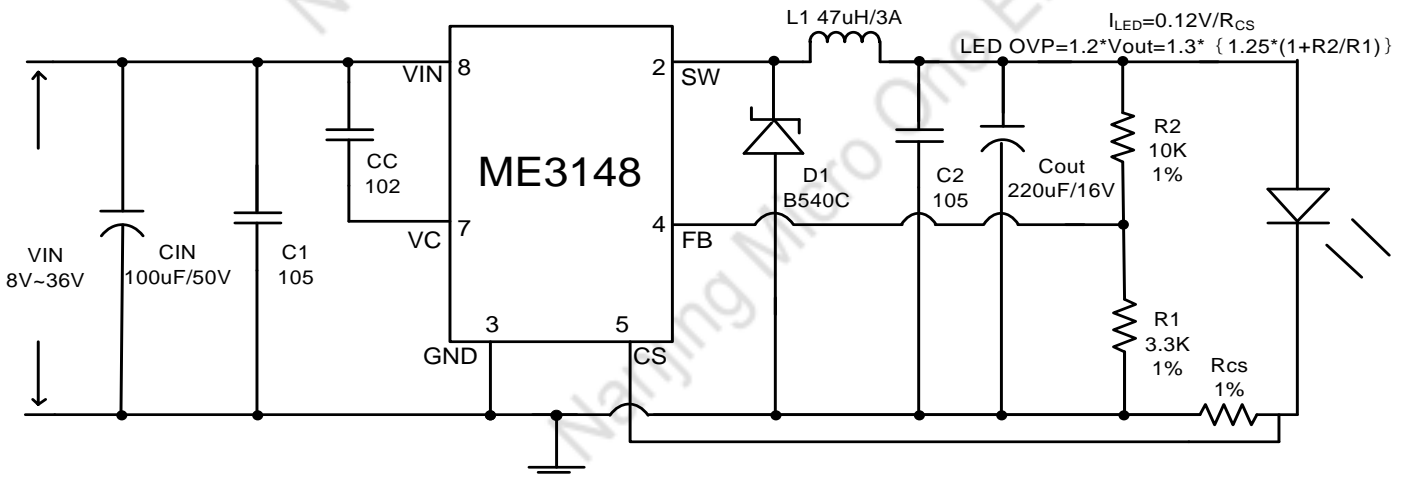
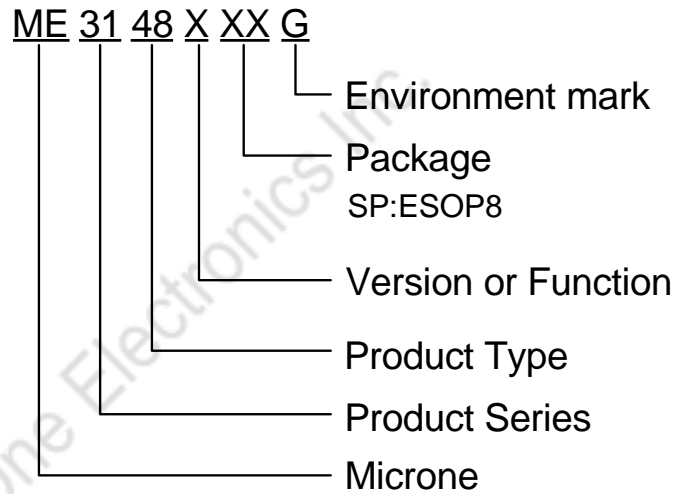


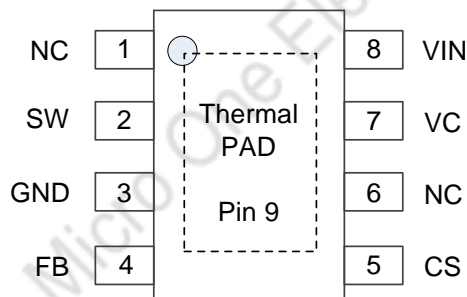
Figure 3. Constant Current LED Driver

Selection Guide



Product Series	Package
ME3148ASPG	ESOP8

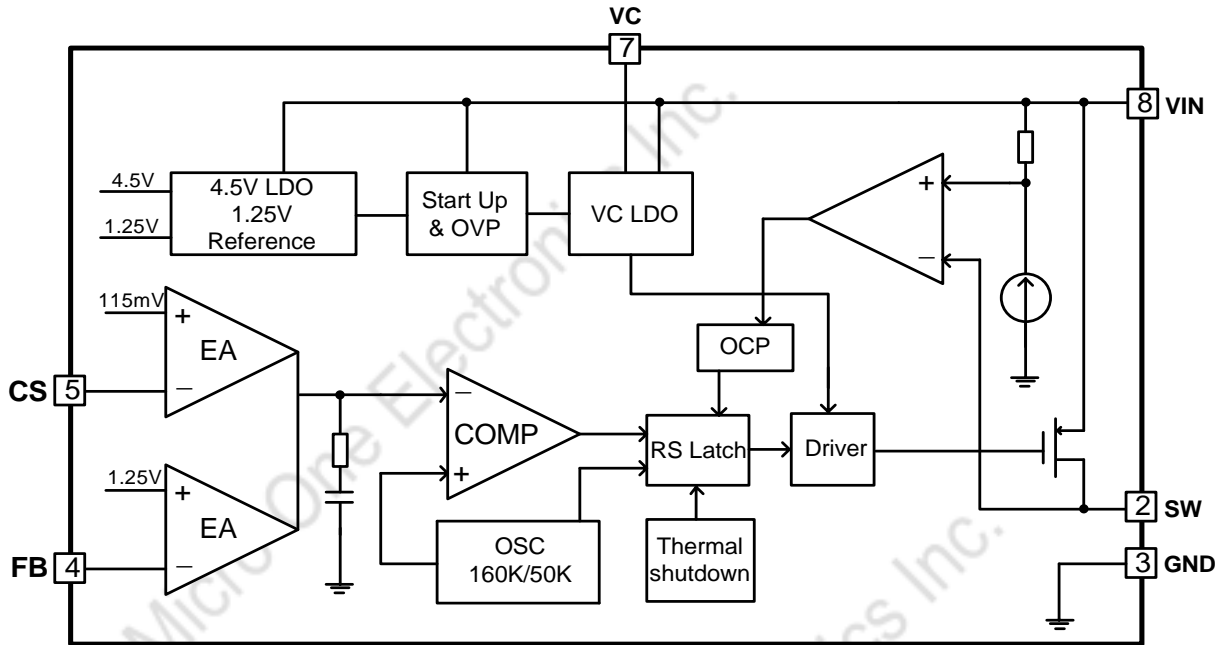
Pin Configuration & Pin Assignment



Pin Assignment

Pin Number	Pin Name	Description
1, 6	NC	Not connected. 可提供技术支持 完整规格书 欢迎试样 V: runzexi n-18
2, Thermal pad	SW	Power Switch Output Pin (SW). The large current at the SW terminal is recommended to be drawn from the Thermal pad, and the 2 pin should not be subjected to a large current.
3	GND	Ground Pin.
4	FB	Feedback Pin (FB). Through an external resistor divider network, Feedback senses the output voltage and regulates it.
5	CS	Output Current Sense Pin
7	VC	Internal Voltage Regulator Bypass Capacity. The VC pin should connect a 1uF capacity to VIN.
8	VIN	Supply Voltage Input Pin. 8~36V wide voltage range

Block Diagram



Absolute Maximum Ratings

Parameter	Rating	Unit
Input Voltage	-0.3~45	V
FB Pin Voltage	-0.3~45	V
SW Pin Voltage	-0.3~VIN	V
Thermal resistance (Junction to air)	63	°C/W
Power Dissipation	Thermal Dissipation limited	W
Maximum Junction Temperature	-40~150	°C
Operating Ambient Temperature	-40~85	°C
Storage Temperature	-55~150	°C
Lead Temperature	260 (Soldering, 10 sec)	°C
ESD (HBM)	>2000	V

Note: Use this IC within the stated maximum ratings. Operation beyond these limits may cause degrading or permanent damage to the device.