

3A Buck Converter

Features

- 4.75V to 20V Supply Voltage Operating Range
- Fixed 500kHz Switching Frequency
- Current-Mode Buck PWM Converter
- Built-in P-Channel Power MOSFET
- 3A Output Current
- 1.2V Internal Reference
- Shutdown Control
- Thermal-Shutdown and Internal Soft Start
- Cycle-by-Cycle Current-Limit
- Short Circuit Protection
- Under-Voltage Lockout Protection
- RoHs Compliant
- SOP-8 (FD) Package

Applications

- Distributed Power Systems
- Battery Charger
- Palmtop Computers, PDAs
- DSL Modems

General Description

The G5642 is a high efficiency, 3A buck converter with a high-side low $R_{DS(ON)}$ switch. It operates from 4.75V to 20V input voltage range, and provides up to 3A continuous output current with the output voltage adjustable down to 1.2V. Whenever the load is light, the G5642 automatically change the PWM operation mode to PFM operation to minimize the power consumption. Hence it is suitable for battery-powered devices.

It uses a fixed switching frequency up to 500kHz. When a short circuit is detected on the output, the device change switching frequency to 50kHz to protect IC from damage.

The G5642 is available in a SOP-8 (FD) package.

Ordering Information

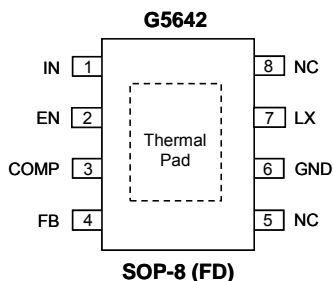
ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G5642F11U	G5642	-40°C to +85°C	SOP-8 (FD)

Note: F1: SOP-8 (FD)

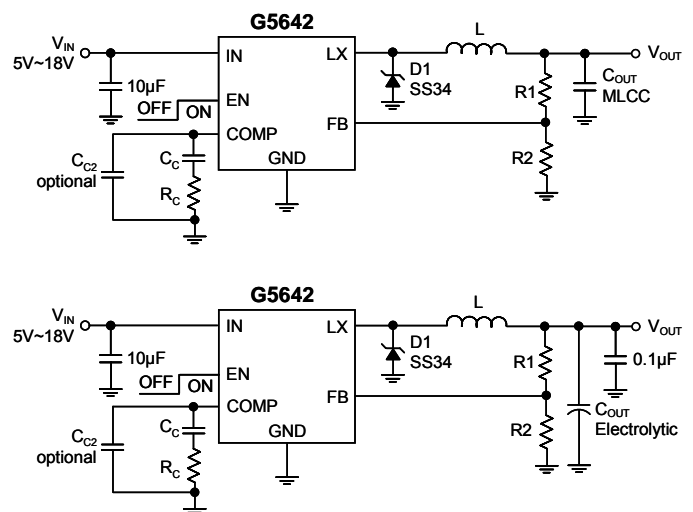
1: Bonding Code

U : Tape & Reel

Pin Configuration



Typical Application Circuit



$$V_{OUT} = 1.2V \times \left(1 + \frac{R1}{R2} \right)$$

* Refer to Table 1 & Table 2 for Component Selection