

Power Distribution Switch

Features

- 70mΩ High-Side MOSFET (G524A,G524B,G524C,G524D)
- Available with 4 Versions of Current Limits with Foldback
- Operating Range:2.7V to 5.5V
- 1mS Typical Rise Time
- Fast Overcurrent Response -1.5μs (TYPICAL)
- Under voltage Lockout
- 130μA Quiescent Supply Current
- 1μA Maximum Shutdown Supply Current
- Logic Level Enable Pin, Available with Active-High or Active-Low Version
- No Reverse Current when Power Off
- Deglitched Open-Drain Over-Current Flag Output (\overline{OC})
- Available with or without Output Shutdown Pull-low Resistor
- Output Reverse-Voltage Protection
- SOT-23-5, TSOT-23-6, MSOP-8 and MSOP-8 (FD) Packages
- UL Certification_#E232223
- CB Test Certification by IEC 60950-1:2005 (2nd Edition); Am 1:2009

General Description

The G524 is an integrated power switch for self-powered and bus-powered Universal Serial Bus (USB) applications. G524A, G524B, G524C, G524D are 70mΩ $R_{DS(ON)}$.

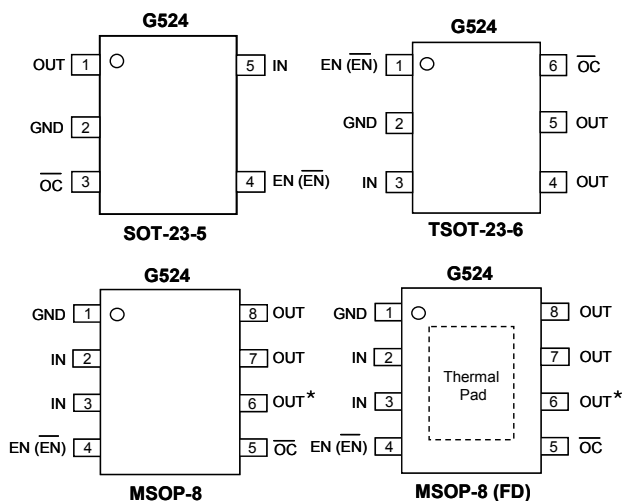
Several Protection features include current limiting and thermal shutdown to prevent catastrophic switch failure caused by increasing power dissipation when continuous heavy loads or short circuit occurs. A built-in charge pump is used to drive the N-channel MOSFET that is free of parasitic body diode to eliminate any reversed current flow across the switch when it is powered off. When the output voltage is higher than input voltage, the power switch is turned off by internal output reverse-voltage comparator.

\overline{OC} is an open-drain output report over-current or over-temperature event and has typical 9ms deglitch timeout period. In addition, \overline{OC} also reports output reverse-voltage condition with typical 5ms deglitch timeout period.

Applications

- High-Side Power Protection Switch
- USB Power Management
- USB Host and Self-Powered Bubs
- USB Bus-Powered Hubs
- Hot Plug-In Power Supplies
- Battery-Charger Circuits

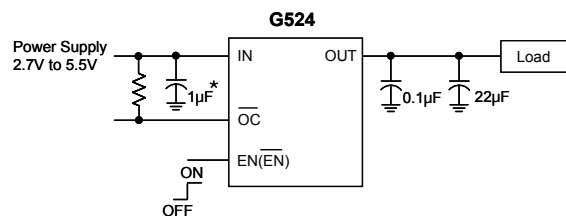
Pin Configuration



Note: Recommend connecting the Thermal Pad to the GND for excellent power dissipation.

* Pin#6 should be considered as OUT when circuit design and PCB layout, but it is NC pin actually.

Typical Application Circuit



*: 1μF of input capacitor is enough in most application cases. If the PCB trace of power rail to IN is long, larger input capacitor is necessary.