USB High-Side Power Switch Advance Information

Features

- **Compliant to USB standard**
- **Typical 130mΩ, Low MOSFET on resistance, at 5.0V**
- **500mA minimum continuous load current**
- **3.0V to 5.5V operating range**
- **100µA typical on-state supply current**
- **25µA typical standby supply current**
- **Output can be forced higher than input when operating in off state.**
- **1.2A maximum current limit**
- **Thermal shutdown protection**
- **2.4V typical undervoltage lockout (UVLO)**
- **Open-drain fault flag pin**
- **Slow turn-on (soft-start) and fast turnoff**
- **Logic level enable pin, available with active-high or active-low version**

Applications

- **High-side power protection switch**
- **USB power management**
- **USB host and self-powered hubs**
- **USB Bus-powered hubs**
- **Hot plug-in power supplies**
- **Battery-charger circuits**

General Description

The G525 is an integrated high-side power switch optimized for self-powered and bus-powered Universal Serial Bus (USB) applications.

The G525 satisfies the USB standards. The switch's low on-resistance meets USB voltage drop requirements. When the output load exceeds current-limit threshold, G525 switches into constant mode and limit the output current to a safe level, which is typically 900mA, well below the UL 25VA safety requirement. An open-drain flag output is also available to indicate fault conditions to the local USB controller. Soft start eliminates the momentary voltage drop on the upstream port that may occur when the switch is enabled in bus-powered applications.

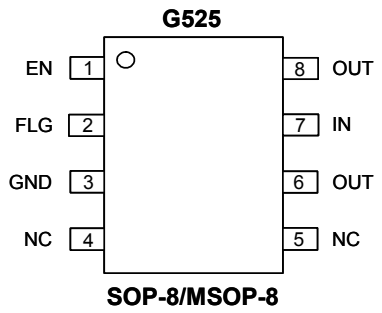
Besides, a thermal shutdown circuit is included to prevent catastrophic switch failure caused by increasing power dissipation when continuous heavy loads or short circuit occurs. A undervoltage lockout (UVLO) circuit ensures that the device remains off unless there is a valid input voltage present, and an enable input that is compatible with both 3.3V and 5V logic.

Ordering Information

ORDER NUMBER	MARKING	ENABLE	TEMP. RANGE	PACKAGE (Pb free)
G525-1	G525-1	Active High	-40°C to +85°C	SOP-8
G525-2	G525-2	Active Low	-40°C to +85°C	SOP-8
G525-1P81U	G525-1	Active High	-40°C to +85°C	MSOP-8
G525-2P81U	G525-2	Active Low	-40°C to +85°C	MSOP-8

Note: P1: SOP-8 P8: MSOP-8
1: Bonding Code
U: Tape & Reel

Pin Configuration



SOP-8/MSOP-8

Function Block