

Dual Power-Distribution Switch with Fault-Blanking

DESCRIPTION

The EUP3542 incorporates dual 100mΩ P-channel MOSFET power switches for power-distribution systems that require multiple power switches in a single package. Each switch is controlled by a logic enable input.

When either output load exceeds the current-limit threshold or a short is present, the device limits the outputs current to a safe level by switching into a constant-current limit mode with fold back, pulling the over-current (OCB(s)) logic output low. When continuous heavy overloads or short-circuits increase the power dissipation in the switches, causing the junction temperature to raise, a thermal protection circuit shutdown the switches to prevent damage. Internal Under Voltage Lock-Out (UVLO) circuitry ensures that the switches remain off until valid input voltage is present. Each power switch is designed to set current limit at 1A_{typical} for EUP3542 and 2.5A_{typical} for EUP3542-15 respectively.

OCB(s) are open-drain outputs which are asserted when over-current occurs. A 8ms fault-blanking feature enables the circuit to ignore momentary faults, such as those caused when hot-swapping a capacitive load, preventing false alarms to the host system. The EUP3542 eliminates any reversed current flow across each switch when it is powered off.

The EUP3542 is available in MSOP-8 or SOP-8 package, operates over the extended (-40°C to +85°C) temperature range.

FEATURES

- Dual 100mΩ High-Side MOSFET
- Operating Range: 2.7V to 5.5V
- 300μS Typical Rise Time
- Under voltage Lockout
- 15μA Quiescent Supply Current
- 1μA Shutdown Supply Current
- Logic Level Enable Pin, Available with Active-Low Version
- No Reverse Current when Power Off
- Open-Drain Over-Current Flag Outputs with fault-blanking
- Available in MSOP-8, SOP-8 and SOP-8(EP) Packages
- RoHS Compliant and 100% Lead(Pb)-Free Halogen-Free
- UL Listed-File No. E334299

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
- Short-Circuit Protections

Typical Application Circuit

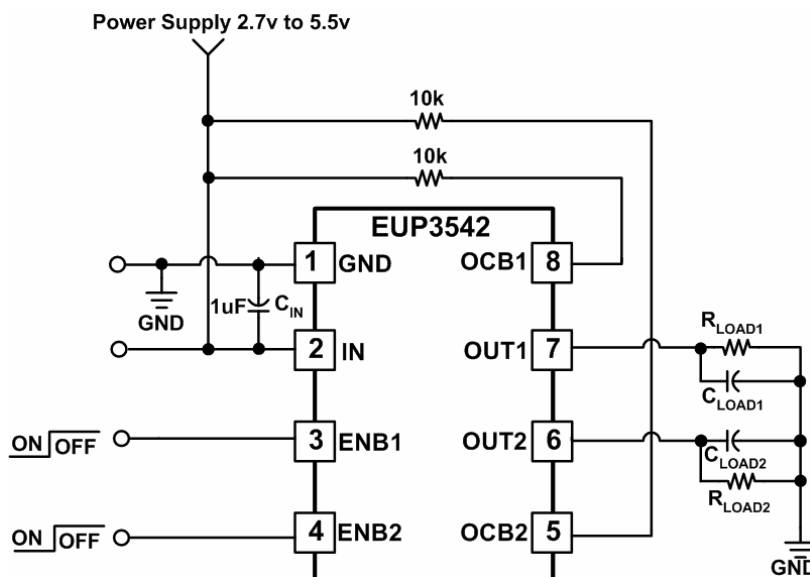


Figure 1.