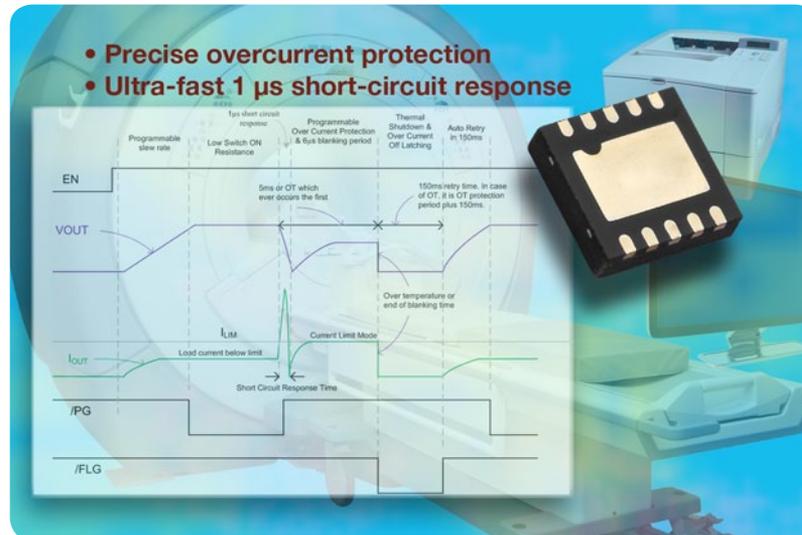


Smart Load Switch with Programmable Overcurrent Protection



The SiP32429 smart load switch offers integrated multiple features that enhance controllability and safety. Designed to operate in a wide input voltage range of 6 V to 28 V, the SiP32429 provides a settable overcurrent protection and features soft start time for slew rate control. The ultra-fast short-circuit response and thermal shutdown provides enhanced levels of protection.

KEY BENEFITS

- Wide operation voltage range with 6 V to 28 V input voltage
- Design flexibility with programmable switch turn-on rise time and adjustable overcurrent protection threshold
- Protection and safety of < 1 μ s short-circuit protection response time, thermal shutdown, and input undervoltage lockout
- Convenient low-voltage control logic; Power Good and Fault Flag outputs with blanking time
- Simplified design and DFN10 3 mm x 3 mm compact package minimizes component count

APPLICATIONS

- Industrial
- Telecommunication
- Data storage, HDD, SSD
- Portable equipment
- Motor drivers
- Digital cameras
- Computing
- Medical and healthcare equipment

RESOURCES

- Datasheet: SiP32429 - pending release
- For technical questions contact PowerICtechsupport@vishay.com
- Vishay PowerCAD Simulator - <http://www.vishay.com/power-ics/powercad-list>



SiP32429 Load Switch

The SiP32429 switch integrates multiple control features that simplify the design and increase the reliability of the circuitry connected to the switch. An internally generated gate drive voltage ensures good R_{ON} linearity over the input voltage operating range. The SiP32429 has a slew rate control circuit that controls the switch turn-on time to the value set by an external capacitor. After soft start, an over current protection circuit (OCP) continuously monitors the current through the load switch, and controls the switch impedance to limit the current to the level programmed by an external resistor. If the over current condition persists for more than 6 ms, the switch shuts off automatically. The SiP32429 has an over temperature protection circuit (OTP) which will shut the switch off immediately if the junction temperature exceeds 140 °C. The OTP circuit will release the switch when the temperature has decreased by about 30 °C of hysteresis. When an OCP or an OTP fault condition is detected the FLG pin is pulled low. The fault flag will release 150 ms after the fault condition is cleared, and the switch will automatically turn on at the programmed slew rate. The device features a low-voltage control logic interface that can be controlled without the need for level shifting. The device also includes a power good flag.

