

GLF76431

Integrated Load Switch with Configurable Power Reset Timer

DESCRIPTION

The GLF76431 is an 6A load switch with a configurable reset timer for portable devices.

The /SRO pin offers a true reset function enabling the load switch to completely disconnect the load from the input battery after a reasonable long delay time. After the reset period, the main switch of the GLF76431 reconnects the output load to the input battery for normal operation. The programmable delay time to the power reset mode by an external resistor on the REXT pin provides designers with system design flexibility.

The OFF input pin allows the GLF76431 to achieve complete shutdown with total downstream standby current of 360 nA typical. With the switch placed between a battery and system, this switch can help to significantly extend system battery life in mobile devices during shipping or periods of extended off time.

The GLF76431 helps to reduce power consumption with the best in class R_{ON} and a breakthrough on state I_Q of only 420 nA typical when the switch is on.

The GLF76431 integrated 1ms slew rate control can also enhance system reliability by mitigating bus voltage swings during switching events. Where uncontrolled switching can generate high inrush currents that result in voltage droop and/or bus reset events, the GLF76431 slew rate control specifically limits inrush currents during turn-on to minimize voltage droop. The output discharge function makes output voltage off quickly during the reset period.

FEATURES

- Ultra-Low ISD: 360 nA Typ @ 3.6 VBAT
- Ultra-Low IQ: 420 nA Typ @ 3.6 VBAT
- Low RON: 19 m Ω Typ @ 3.6 VBAT
- IOUT Max: 6 A
- Wide Input Range: 1.8 V to 5.5 V
6 Vabs max
- Power Reset Mode by /SRO Pin Disconnect the downstream system from Battery Source
- Programmable delay and reset duration by one external resistor, REXT
 - Reset delay time by /SRO pin
 - Turn-off delay time by OFF pin
 - Power reset duration time
- Integrated Output Discharge During Reset Period
- Controlled Output Rise Time: 1 ms at 3.6 VBAT
- Operating Temperature Range: - 40 °C to 85 °C
- HBM: 8 kV, CDM: 2 kV

PRODUCT TABLE

Eval Board Ordering Info	Part Number	Top Mark	R _{ON} (Typ.) @ 3.6 V _{BAT}	Programmable Timing by R _{EXT}	Output Discharge
EV022-GLF76431	GLF76431	AG	19 mΩ	Reset Delay time, t _{Reset-Dly} Power Off Delay Time, t _{SD} Power Reset Duration, t _{Reset}	90 Ω