

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 mΩ 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

o 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

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Evaluation Board Manual EV022

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 |