

DESCRIPTION

The GLF76321T is an ultra-thin, ultra-efficient I_QSmart™ load switch with an integrated deepsleep timer for wearables and IoT devices.

The /SRO pin enables a whole system to enter ultra-deep sleep power conservation mode by disconnecting the system from the battery charge, with ultra-low standby current of 7nA 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 part supports two methods for entering the deep sleep: supporting both user and interrupt initiated events. Deep sleep can be initiated or exited by either holding the SRO pin low for a predefined delay time (ideal for user control) or by providing a rising edge signal to the OFF pin (ideal for logic or interrupt control).

To exit the deep sleep, the user can hold down the /SRO pin to ground for 1.3 seconds, or simply connect a charger adapter to trigger the Wake pin.

The GLF76321T helps to reduce power consumption with the best in class R_{ON} and a breakthrough on state I_Q of only 3nA typical when the switch is on.

The GLF76321T 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 GLF slew rate control specifically limits inrush currents during turn-on to minimize voltage droop. The output discharge functions makes output voltage off quickly during the reset period.

The GLF76321T is available in 0.97mm x 1.47mm x 0.55mm wafer level chip scale package (WLCSP). **ultra-thin: 0.35mm Typ., 0.4mm Max.**

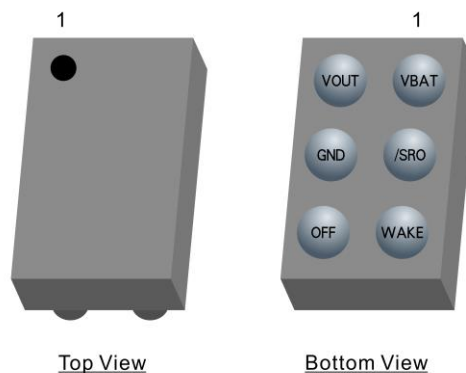
FEATURES

- Ultra-Low I_{SD}: 7 nA Typ @ 3.6VBAT
- Ultra-Low I_Q: 3 nA Typ @ 3.6VBAT
- Low R_{ON} : 31 mΩ Typ @ 3.6VBAT
- I_{OUT} Max : 2A
- Wide Input Range: 1.5V to 5.5V
6Vabs max
- Deep Sleep Mode by /SRO and OFF Pins Disconnect the downstream system from the battery source
- Integrated Delay Time(Hold Time) to Deep Sleep, 7 s
- Turn-Off Delay Time, 7 s
- Controlled Output Rise Time: 1ms at 3.6VBAT
- Integrated Output Discharge Switch When Disabled
- Operating Temperature Range: -40 to 85°C
- HBM: 6kV, CDM: 2kV
- Ultra-Small: 0.97mm x 1.47mm WLCSP
- Ultra-Thin on GLF76321T: **0.35mm Typ.**, 0.4mm Max.

APPLICATIONS

- Wearables
- IoT Devices
- Medical Devices

PACKAGE



0.97mm x 1.47mm x 0.35mm Ultra-Thin WLCSP

APPLICATION DIAGRAM

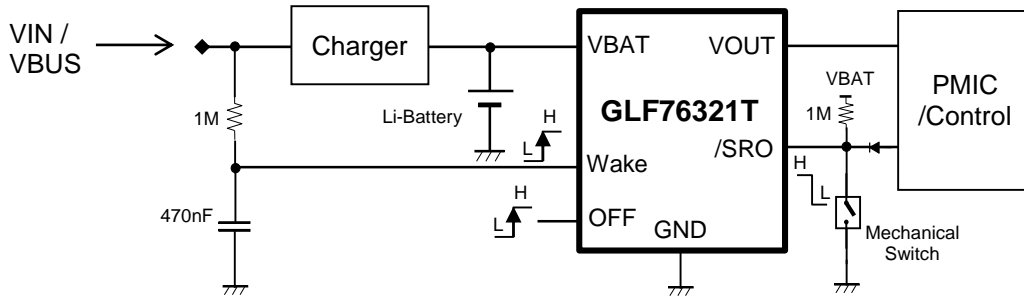


Figure 1. Typical Application with Standalone Charger IC

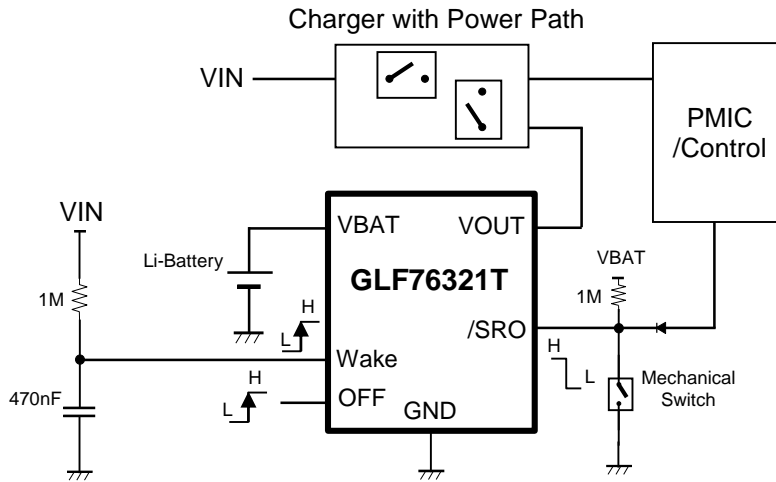


Figure 2. Typical Applications with Charger IC with Power Path and PMIC

FUNCTIONAL BLOCK DIAGRAM

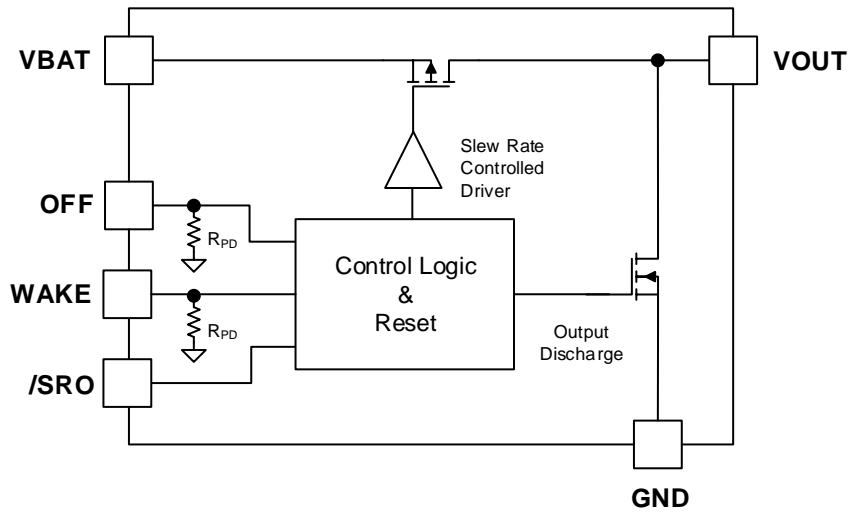
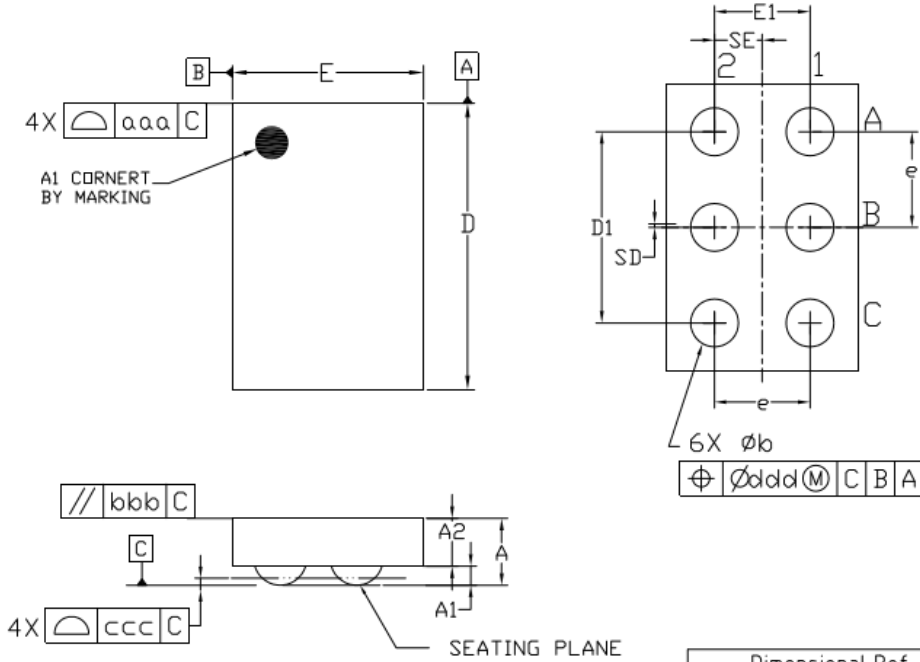


Figure 3. Functional Block Diagram

ULTRA-THIN PACKAGE OUTLINE



Dimensional Ref.			
REF.	Min.	Nom.	Max.
A	0.300	0.350	0.400
A1	0.075	0.100	0.125
A2	0.225	0.250	0.275
D	1.460	1.470	1.485
E	0.960	0.970	0.985
D1	0.950	1.000	1.050
E1	0.450	0.500	0.550
b	0.210	0.250	0.290
e	0.500 BSC		
SD	0.000 BSC		
SE	0.250 BSC		
Tol. of Form&Position			
aaa	0.10		
bbb	0.10		
ccc	0.05		
ddd	0.05		

Notes

1. ALL DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1994.