

DESCRIPTION

The GLF76321 / 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 GLF76321 / 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 GLF76321 / 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 GLF76321 is available in 0.97mm x 1.47mm x 0.55mm wafer level chip scale package (WLCSP). **The GLF76321T is ultra-thin: 0.35mm Typ, 0.4mm Max.**

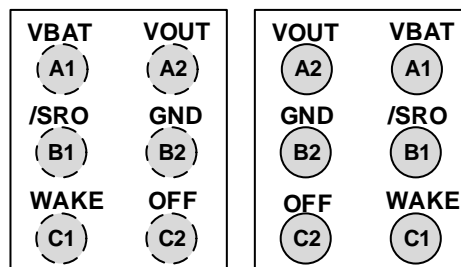
FEATURES

- 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



TOP VIEW

BOTTOM VIEW

0.97mm x 1.47mm x 0.55mm WLCSP

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

DEVICE OPTIONS / PACKAGING INFORMATION

Part Number	Type	Top Mark	/SRO Hold Time	Output Discharge	Package	Availability	Tape and Reel Packaging
GLF76320	Deep Sleep after 7 sec	SQ	7 sec	NA	0.97mm x 1.47mm x 0.55mm WLCSP	On Request	3000 Pieces on 7 inch reel
GLF76321		SF		85Ω	0.97mm x 1.47mm x 0.55mm WLCSP	Released	
GLF76321T		SF		85Ω	0.97mm x 1.47mm x 0.35mm Ultra-Thin WLCSP	Released	

APPLICATION DIAGRAM

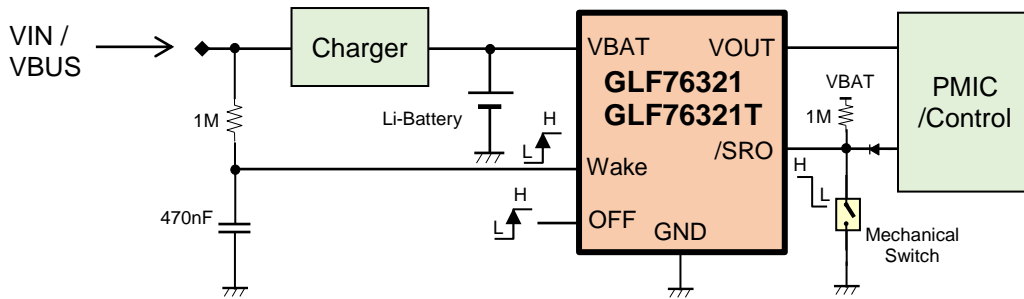


Figure 1. Typical Application with Standalone Charger IC

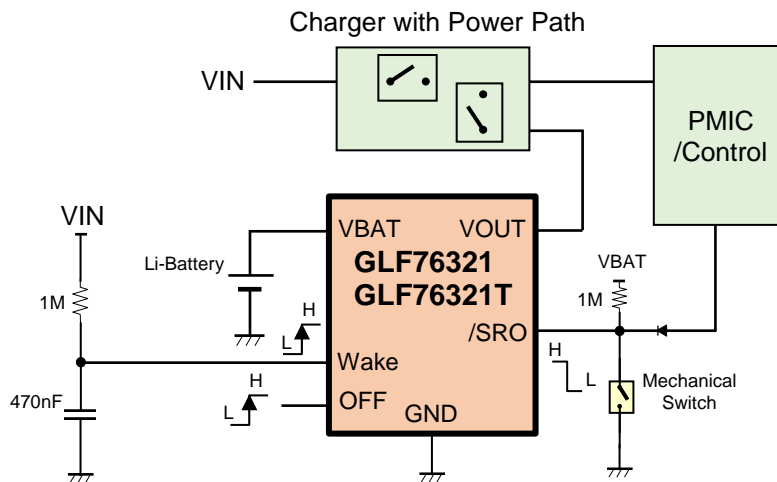
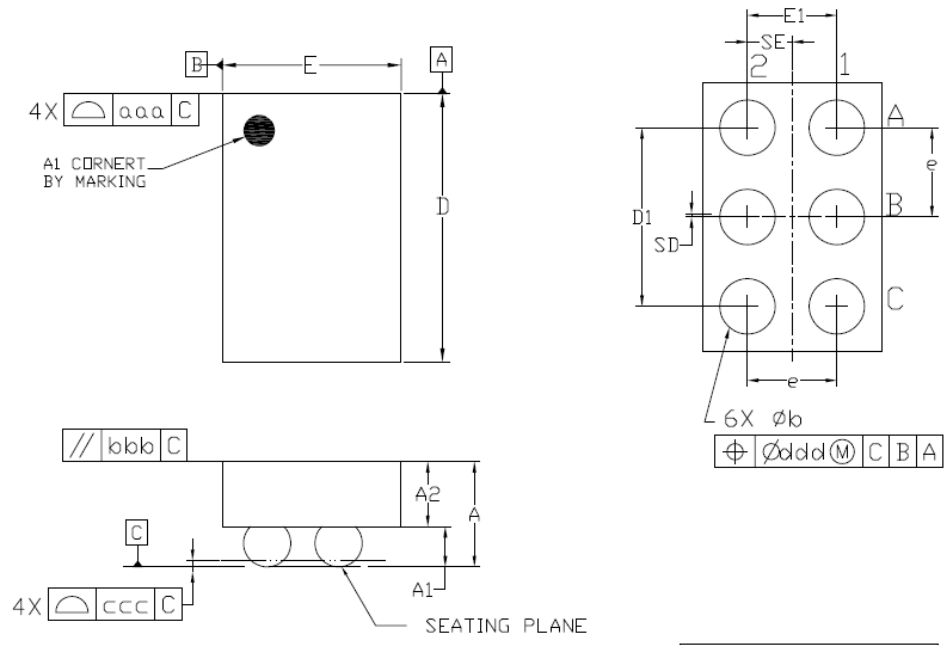


Figure 2. Typical Applications with Charger IC with Power Path and PMIC

PACKAGE OUTLINE (GLF76321)

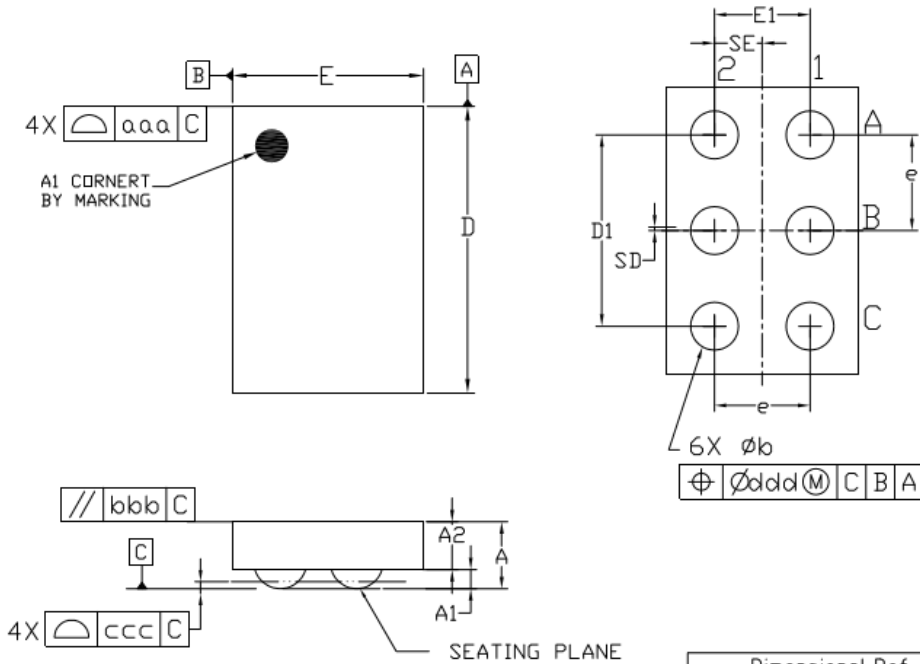


Dimensional Ref.			
REF.	Min.	Nom.	Max.
A	0.500	0.550	0.600
A1	0.225	0.250	0.275
A2	0.275	0.300	0.325
D	1.460	1.470	1.485
E	0.960	0.970	0.985
D1	0.950	1.000	1.050
E1	0.450	0.500	0.550
b	0.260	0.310	0.360
e	0.500 BSC		
SD	0.000 BSC		
SE	0.250 BSC		
Tol. of Form&Position			
aaa	0.10		
bbb	0.10		
ccc	0.05		
ddd	0.05		

Notes

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

ULTRA-THIN PACKAGE OUTLINE (GLF76321T)



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

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PLEASE SEND EMAIL TO INFO@GLFIPOWER.COM FOR OBTAINING FULL DATASHEET.