

GLF76311 Nano-Current Consumed Power On/Off Control IC

Preliminary Specification

DESCRIPTION

The GLF76311 is an ultra-thin, ultra-efficient loSmartTM load switch with an integrated on and off delay timer for Smart bracelet and Mobile handheld devices.

When the VBAT pin is connected to the battery, the main switch of GLF76311 is turned on, that is the default state. During the normal operation mode, pulling the SW pin to a low level for 6 seconds turns off the GLF76311 and the entire system enters the ultra-deep sleep energy-saving mode.

When the GLF76311 is off, pulling the SW pin to a low level for 3 seconds activates the GLF76311 again and the entire system enters the normal working mode.

The GLF76311 helps to reduce power consumption with the best in class R_{ON} , a breakthrough on state I_{Q} of only 6 nA when the switch is on and ultra-low I_{SD} of only 7 nA when switch is off. This switch can help significantly extend the system battery life in mobile devices during shipping or in extended shutdown times.

An integrated 1 ms 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 function makes the output voltage shut off safely.

The GLF76311 is available in 0.97 mm x 0.97 mm x 0.55 mm wafer level chip scale package (WLCSP).

FEATURES

Ultra-Low I_{SD}: 7 nA Typ @ 3.6 VBAT
 Ultra-Low I_Q: 6 nA Typ @ 3.6 VBAT
 Low R_{ON}: 34 mΩ Typ @ 3.6 VBAT

• I_{OUT} Max : 2 A

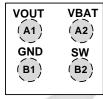
Wide Input Range: 2.5 V to 5.5 V
 6 Vabs Max.

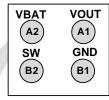
- Turn-On Delay Time, 3 s Typ.
- Turn-Off Delay Time, 6 s Typ.
- Controlled Vout Rise Time: 1 ms at 3.6 VBAT
- Integrated Output Discharge Switch When Disabled
- Operating Temperature Range: 40 to 85 °C
- HBM: 8 kV, CDM: 2 kV
- Ultra-Small: 0.97 mm x 0.97 mm x 0.55 mm WLCSP

APPLICATIONS

- Smart Devcies
- Mobile handheld device

PACKAGE





TOP VIEW

BOTTOM VIEW

0.97 mm x 0.97 mm x 0.55mm 0.5mm pitch WLCSP

INTEGRATED POWER Nano Current Consumed Power On/Off Control IC

APPLICATION DIAGRAM

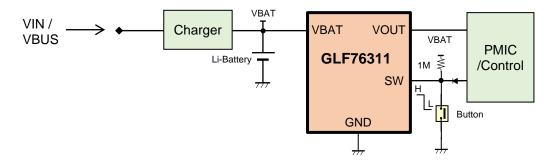


Figure 1. Typical Application

FUNCTIONAL BLOCK DIAGRAM

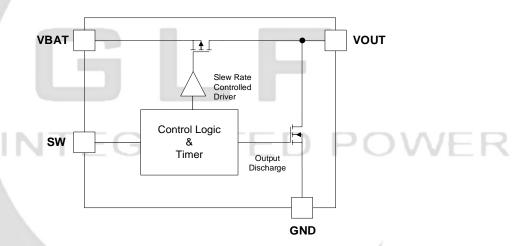
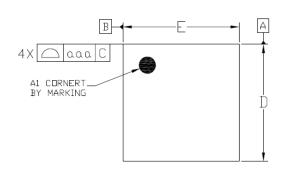
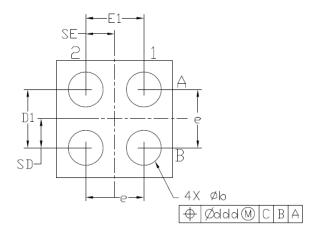
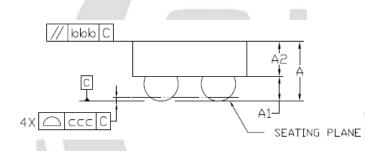


Figure 2. Functional Block Diagram

PACKAGE OUTLINE







Dimensional Ref.			
REF.	Min.	Nom.	Max.
Α	0.500	0.550	0.600
Α1	0.225	0.250	0.275
Α2	0.275	0.300	0.325
D	0.955	0.970	0.985
Е	0.955	0.970	0.985
D1	0.450	0.500	0.550
E1	0.450	0.500	0.550
Ь	0.260	0.310	0.360
е	0.500 BSC		
SD	0.250 BSC		
SE	0.250 BSC		
Tol. of Form&Position			
999	0.10		
ььь	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.