

DESCRIPTION

The GLF73510 is an I_QSmart™ ultra-efficiency, 2A rated switch with the accurate turn-off threshold to prevent a battery from being discharged deeply.

When the voltage of a battery decreases to the off threshold voltage level, the GLF73510 is turned off, consuming an ultra-low leakage current (I_{SD}) to save the battery. The GLF73510 remains in the off state until a higher voltage is applied to V_{OUT} pin. Note that the GLF73510 is enabled only by V_{OUT} voltage with a charger output.

With the higher V_{OUT} voltage from a charger applied, the GLF73510 is fully turned on and monitors V_{BAT} voltage. When the V_{OUT} voltage of a charger is less than the on threshold voltage, a battery can be charged through the body diode of the main switch.

In case that a charged battery is assembled without a higher V_{OUT} applied, the GLF73510 continues to stay at the sleep mode, consuming an ultra-low leakage current (I_{SD}) to save the battery, during shipping or storage.

The GLF73510 is available in 0.97mm x 0.97mm x 0.55mm wafer level chip scale package (WLCSP).

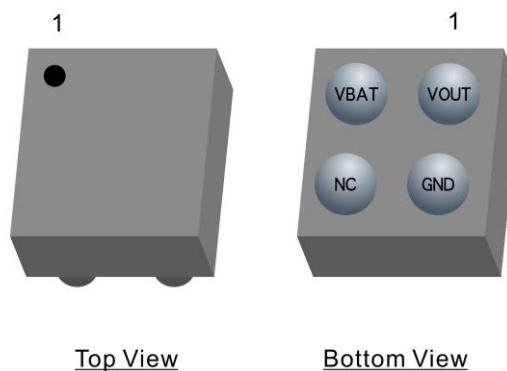
FEATURES

- Off Threshold Voltage to Protect Battery Discharge
 $V_{TH_OFF} : V_{BAT}=3.1V$
Contact GLF for a different V_{TH} level
- Switch is activated only by the V_{OUT} voltage of a charger output
- Ultra-Low I_Q : 0.5uA Typ @ V_{BAT}=3.6V
- Ultra-Low I_{SD} : 2nA Typ @ V_{BAT} =1.1V
 6nA Typ @ V_{BAT} =3.6V
- Low R_{ON} : 30mΩ Typ @ V_{BAT}=3.6V
 28mΩ Typ @ V_{BAT}=4.2V
- I_{OUT} Max : 2A
- Temperature Range: -40 to 85°C
- HBM: 6kV, CDM: 2kV
- Ultra-Small : 0.97mm x 0.97mm WLCSP

APPLICATIONS

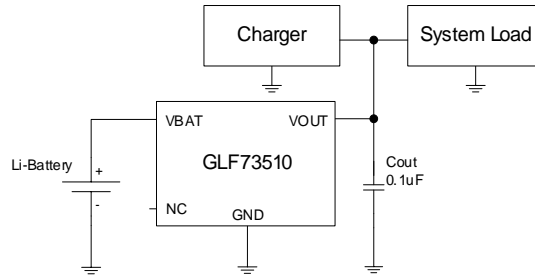
- Battery protection
- Wearables / IoT Devices
- Mobile Devices
- Mobile Medical

PACKAGE



0.97mm x 0.97mm x 0.55mm WLCSP

APPLICATION DIAGRAM



Note: 1) The GLF73510 can be activated by applying a voltage above V_{ON} to the V_{OUT} pin.
 2) When the GLF73510 is at the off state, the battery can be charged through the body diode of the main switch.

FUNCTIONAL BLOCK DIAGRAM

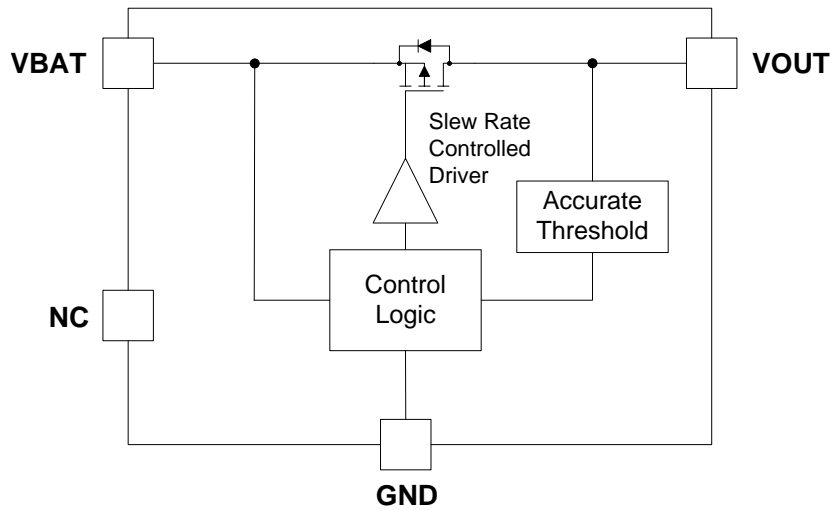
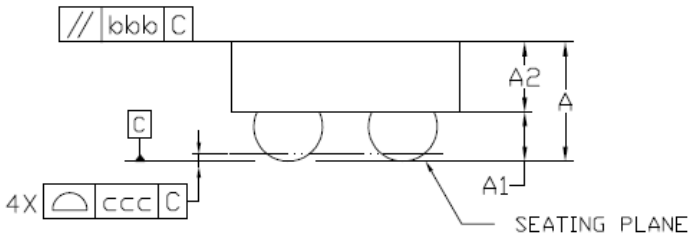
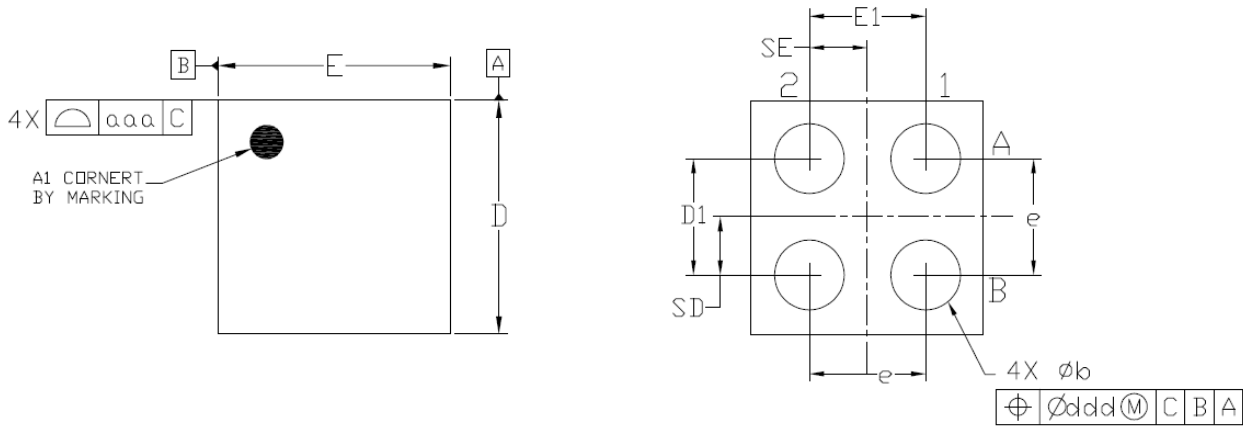


Figure 1. Functional Block Diagram

PACKAGE OUTLINE



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	0.960	0.970	0.985
E	0.960	0.970	0.985
D1	0.450	0.500	0.550
E1	0.450	0.500	0.550
b	0.260	0.310	0.360
e	0.500 BSC		
SD	0.250 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.