GLF71431
7 A VariRise™ Programmable Slew Rate Controlled Switch

Preliminary Specification

DESCRIPTION

The GLF71431 is an ultra-efficient, 7 A rated, integrated load switch with the VariRise™ technology which provides the programmable slew rate of variable output voltage rising times from 100us up to 34ms depending on conditions.

The GLF71431 features the ultra-efficient I_QSmart™ technology that supports some of the lowest R_{ON}, quiescent currents (I_Q) and shutdown currents (I_{SD}) in the industry. Low R_{ON} reduces conduction losses, while low I_Q and I_{SD} solutions help designers to reduce parasitic leakage currents, improve system efficiency, and increase battery lifetimes.

The PGM input pin allows the user to add an external resistor to set the slew rate of the switch output voltage to a specific value for a given output capacitance. It limits inrush currents during turn-on, helping to minimize voltage droop.

The GLF71431 offers best in class size and on-resistance (R_{ON}) performance. It uses chip scale packaging which utilizes 12 bumps, in a 1.27 mm x 1.67 mm die size with 0.4 mm pitch.

FEATURES

- Ultra-Low Quiescent Current
  - I_Q : 5 nA Typ. at 5.5 V_{IN}
- Ultra-Low Stand-by Current
  - I_{SD} : 55 nA Typ. at 5.5 V_{IN}
- Low R_{ON} : 10 mΩ Typ. at 5.5 V_{IN}
- Supply Voltage Range: 1.5 V to 5.5 V
                        6 V abs max
- VariRise™ Programmable V_{OUT} Rising Time
- 7 A Continuous Output Current
- Output Discharge Switch
- Wide Operating Temperature Range :
   - 40 °C ~ 105 °C
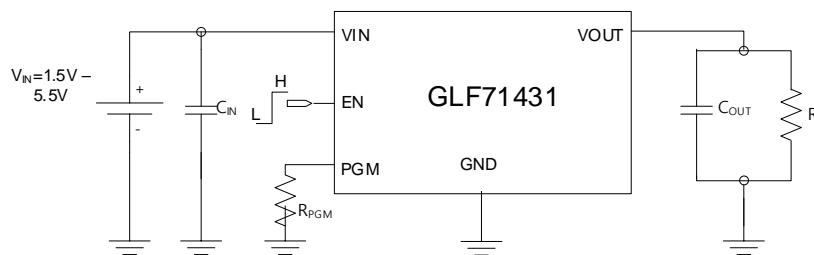- 1.27 mm x 1.67 mm x 0.55 mm Wafer Level Chip Scale Packaging (WLCSP)

APPLICATIONS

- Low Power Subsystems
- Communication / Network System
- Smart Mobile Devices
- Storage Devices

PACKAGE

Top View   Bottom View
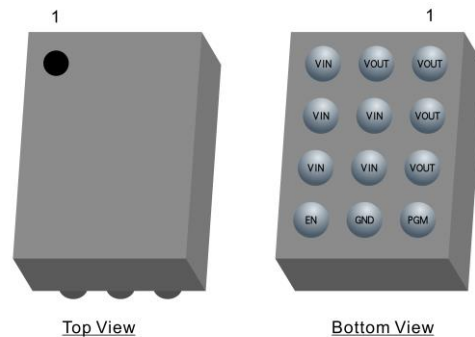
1.27 mm x 1.67 mm x 0.55 mm, 0.4 mm Pitch

APPLICATION DIAGRAM

FUNCTIONAL BLOCK DIAGRAM
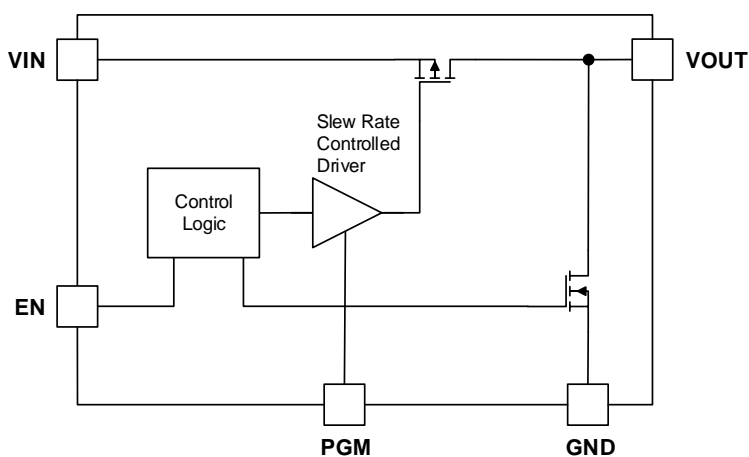
Figure 1. Functional Block Diagram

ACKAGE OUTLINE
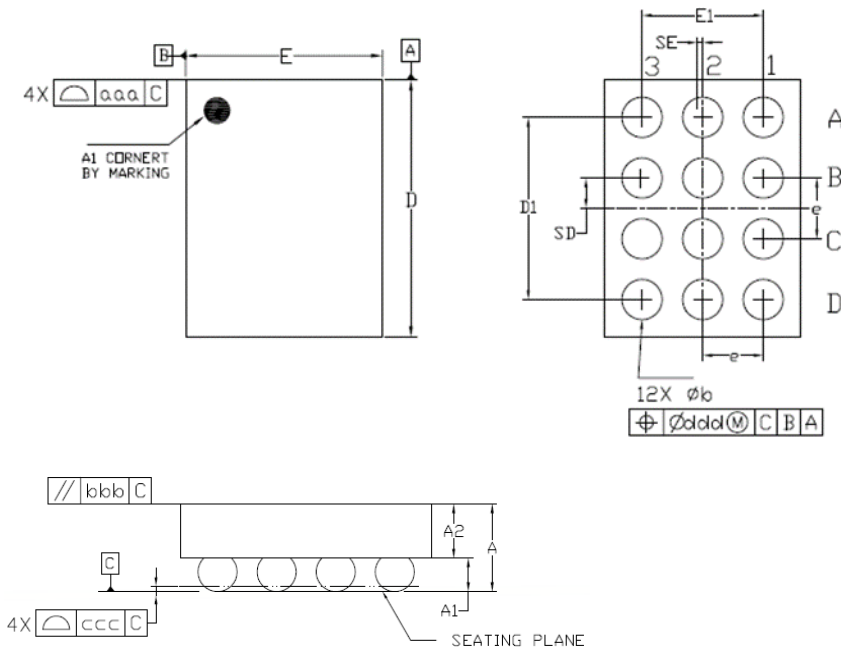
Dimensional Ref.			
REF.	Min.	Nom.	Max.
A	0.500	0.550	0.600
A1	0.175	0.200	0.225
A2	0.325	0.350	0.375
D	1.260	1.270	1.285
E	1.660	1.670	1.685
D1	0.750	0.800	0.850
E1	1.150	1.200	1.250
b	0.215	0.265	0.315
e	0.400 BSC		
SD	0.000 BSC		
SE	0.200 BSC		
Tol. of Form&Position			
aaa	0.10		
bbb	0.10		
ccc	0.05		
ddd	0.05		

Notes

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