GLF1231HT, GLF1232HT

I_QSmart™ Power Load Switch with Reverse Current Blocking Protection

Preliminary Specification

DESCRIPTION

The GLF1231HT and GLF1232HT are a highly efficient load switch with Reverse Current Blocking Protection, specifically designed for applications where low power consumption and high performance are crucial, such as in IoT (Internet of Things) devices, mobile electronics, and wearables.

The GLF1231HT and GLF1232HT are highly efficient components, leveraging I_QSmart™ technology to keep the quiescent current (I_Q) and shutdown current (I_{SD}) as low as possible. With low I_Q and I_{SD}, the device consumes less power in idle or shutdown states, meaning the system can operate for longer periods without draining the battery.

The GLF1231HT and GLF1232HT integrated slew rate control offers a significant advantage in improving system reliability by managing the voltage transitions more smoothly during switching events. By controlling the rate of voltage change during turn-on, to effectively limit the inrush current, ensuring that the system remains stable and minimizing the risk of voltage dips. This protection mechanism helps maintain consistent performance and reduces the likelihood of unwanted resets or disruptions in the power supply.

The GLF1231HT and GLF1132HT are designed to offer a wide input voltage range, which is a significant advantage in terms of system flexibility and performance. It makes the device versatile enough to be used in multiple voltage rail applications. As a result, it can simplify inventory management and help reduce operating costs, as fewer devices are needed for various applications.

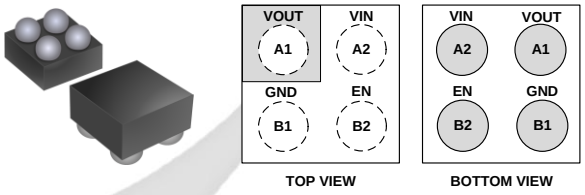
FEATURES

- Wide Input Range: 1.1 V to 5.5 V
  6 Vabs max
- Low I_Q: 1.2 µA Typ at 5.5 V_{IN}
- Ultra-Low I_{SD}: 19 nA Typ at 5.5 V_{IN}
- Low R_{ON} = 34 mΩ Typ. at 5.5 V_{IN}
- I_{OUT} Max = 2.0 A
- Controlled Rise Time:
  - 410 µs at 3.3 V_{IN}: GLF1231HT
  - 6 µs at 3.3V_{IN}: GLF1232HT
- Integrated Output Discharge Switch:
  Only GLF1231HT
- Reverse Current Blocking Protection
- Compatible with lower enable voltage systems

APPLICATIONS

- Wearables
- Data Storage, SSD
- Mobile Devices
- Low Power Subsystems
- IoT Devices

PACKAGE



0.77 mm x 0.77 mm x 0.35 mm Thin WLCSP

APPLICATION DIAGRAM

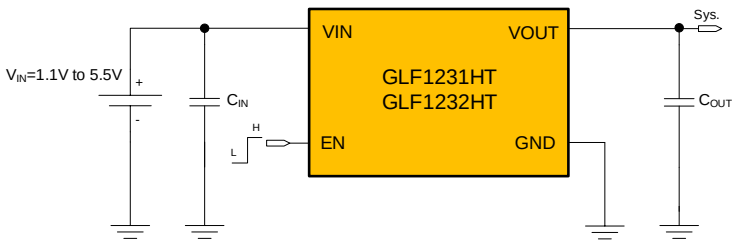
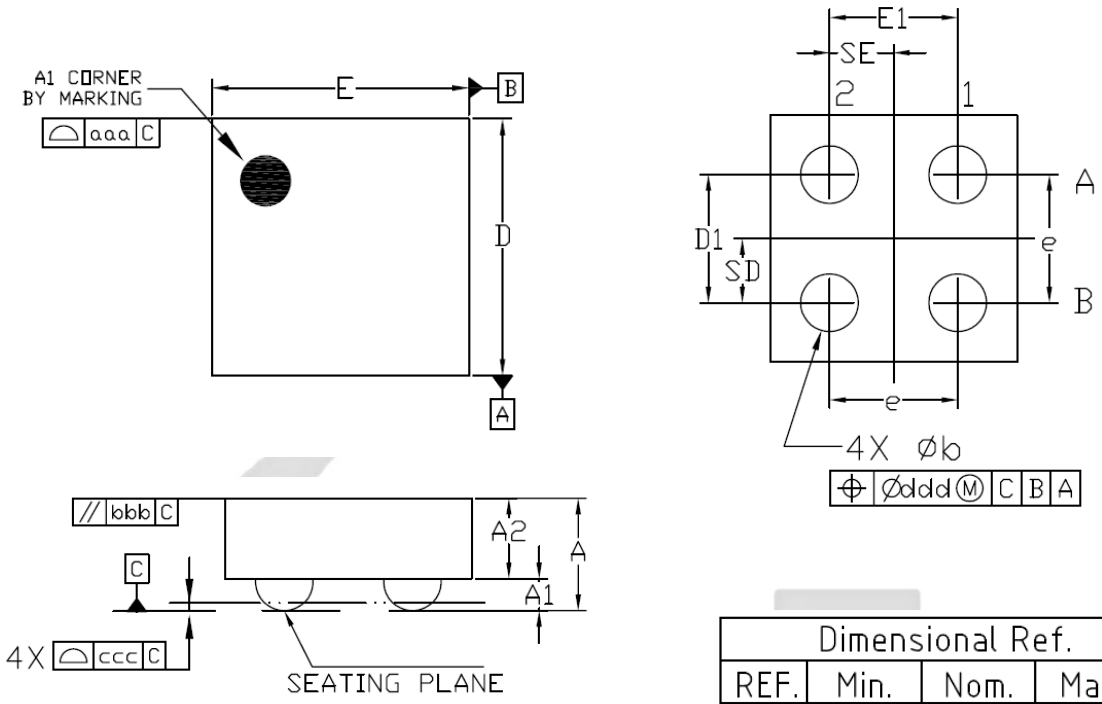


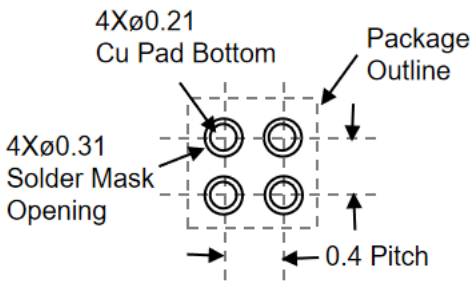
Figure 1. Application Diagram

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	0.755	0.770	0.785
E	0.755	0.770	0.785
D1	0.350	0.400	0.450
E1	0.350	0.400	0.450
b	0.145	0.180	0.215
e	0.400 BSC		
SD	0.200 BSC		
SE	0.200 BSC		
Tol. of Form&Position			
aaa	0.10		
bbb	0.10		
ccc	0.05		
ddd	0.05		

Recommended Footprint



Notes

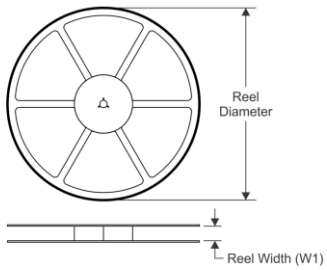
1. ALL DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGRESS)
2. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M-1994.

PACKAGING INFORMATION

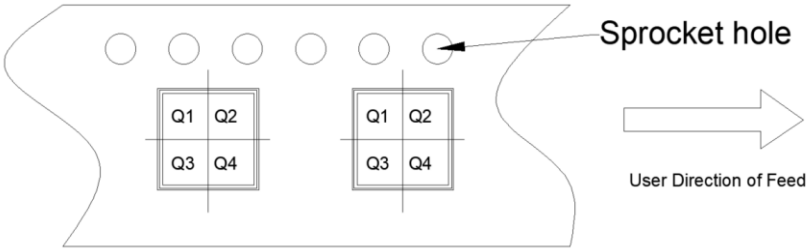
Part Number	Package	Pins	Pitch	Top Mark	Moisture Sensitivity Level	Environmental Information
GLF1231HT-S17	WLCSP	4	0.40mm	6	MSL1	ROHS+HF
GLF1232HT-S17	WLCSP	4	0.40mm	8	MSL1	ROHS+HF

TAPE AND REEL INFORMATION

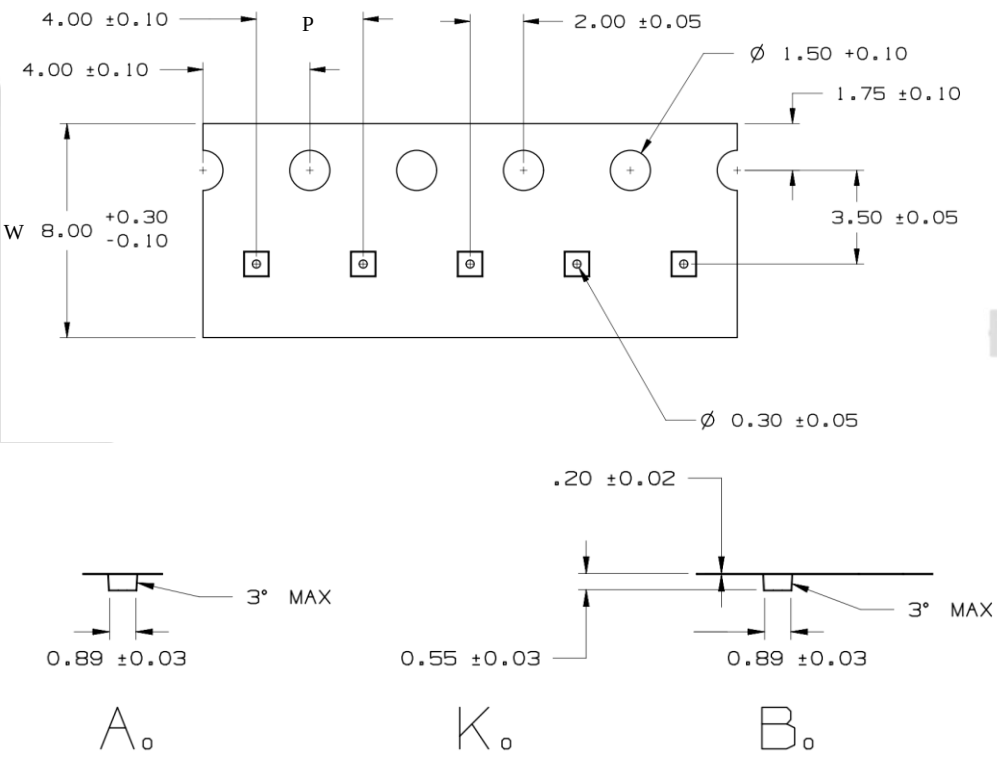
REEL DIMENSIONS



QUADRANT ASSIGNMENTS PIN 1 ORIENTATION TAPE



TAPE DIMENSIONS



Device	Package	Pins	SPQ	Reel Diameter (mm)	Reel Width W1	A0	B0	K0	P	W	Pin1
GLF1231HT-S17	WLCSP	4	4000	180	9	0.89	0.89	0.55	4	8	Q1
GLF1232HT-S17	WLCSP	4	4000	180	9	0.89	0.89	0.55	4	8	Q1

Remark:

A0: Dimension designed to accommodate the component width

B0: Dimension designed to accommodate the component length

C0: Dimension designed to accommodate the component thickness

W: Overall width of the carrier tape

P: Pitch between successive cavity centers