GLF1131HT/GLF1133HT
Nano-Current Consumed, Power Switch with Slew Rate Control

DESCRIPTION

The GLF1131HT and GLF1133HT are a highly efficient load switch, 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 GLF1131HT and GLF1133HT 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 GLF1131HT and GLF1133HT 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.

FEATURES

- Wide Input Range: 1.1 V to 5.5 V
  6 V_{ABS} max
- Low I_Q: 2 nA 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:
  450 µs at 3.3 V_{IN}: GLF1131HT
  2450 µs at 3.3V_{IN}: GLF1133HT
- Integrated Output Discharge Switch
- Compatible with lower enable voltage systems
- Operating Temperature Range: -40 to 85 °C
- HBM: 4 kV, CDM: 2 kV

PRODUCT TABLE

Eval Board Ordering Info	Part Number	Top Mark	R_{ON} (Typ.) @ 5.5 Vin	Output Discharge	EN Activity
EV010-GLF1131HT	GLF1131HT-S17	5	34 mΩ	85 Ω	High
EV010-GLF1133HT	GLF1133HT-S17	7	34 mΩ	85 Ω	High

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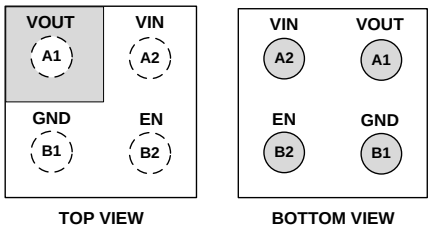
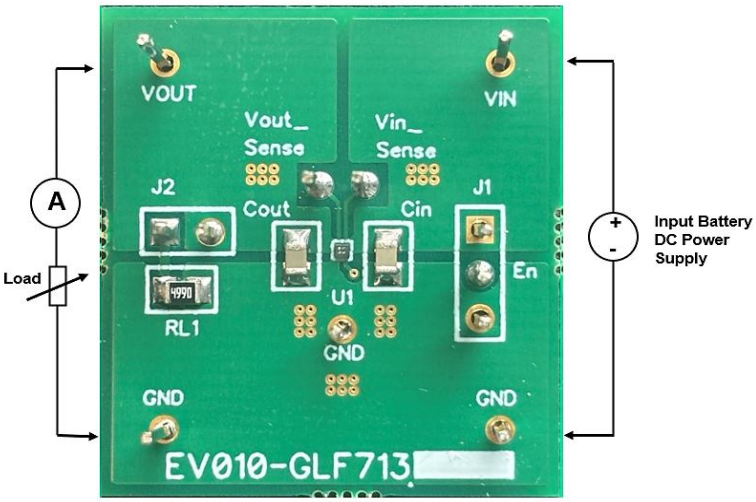
EVALUATION BOARD & DEVICE PACKAGE



0.77 mm x 0.77 mm x 0.35 mm Thin WLCSP

Pin #	Name	Description
A1	V_{OUT}	Switch Output
A2	V_{IN}	Switch Input. Supply Voltage for IC
C1	GND	Ground
C2	EN	Enable to control the switch. Do not leave the EN pin floating

TEST SETUP



QUICK START GUIDE

1. Preset the input power supply to the desired voltage between 1.1 V to 5.5 V.
2. The load resistor, RL1=499 Ω, has been populated on the bottom of the PC board. Short the J2 to use the RL1=499 Ω or RL2 which is not populated. To increase the output current, connect an electronic load to VOUT and GND. The maximum output continuous current for GLF1131HT/GLF1133HT is 2 A. Please ensure this absolute maximum is not exceeded.
3. Connect the positive and negative terminals of the input power supply to VIN and GND terminals respectively. VIN_Sense and VOUT_Sense can be used for measurement points.
4. Turn on the input power supply.
5. Configure the J1, EN jumper as required.

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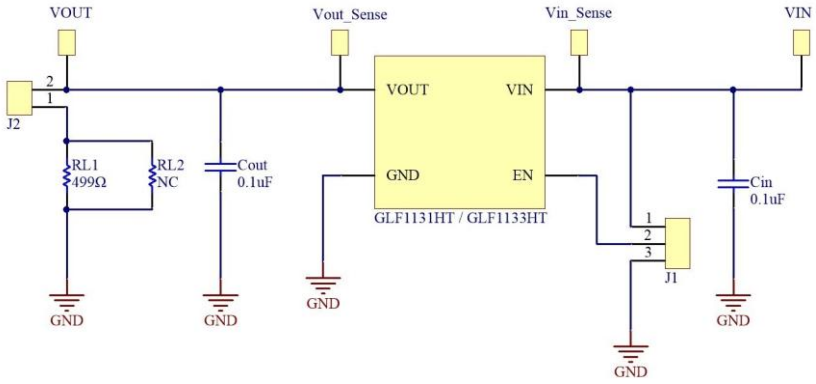
SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/Part Number
1	U1	GLF1131HT/GLF1133HT	2 A Load Switch	GLF Integrated Power
2	Cin, Cout	0.1 uF	Cap, X7R, 16 V, 10% 0805	YAGEO CC0805KRX7R7BB104
1	RL1	499 Ω	Output Resistor	YAGEO RC0805FR-07499RL
1	RL2	NC	Output Resistor	Not populated on the bottom
2	J1, J2	Jumper	Jumper	

PRINTED CIRCUIT BOARD LAYOUT

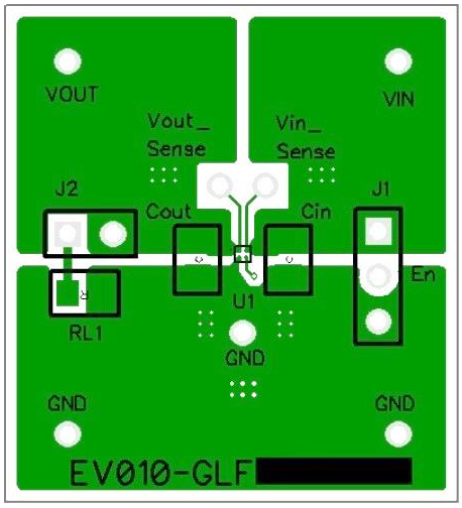


Fig 1. Top Layer

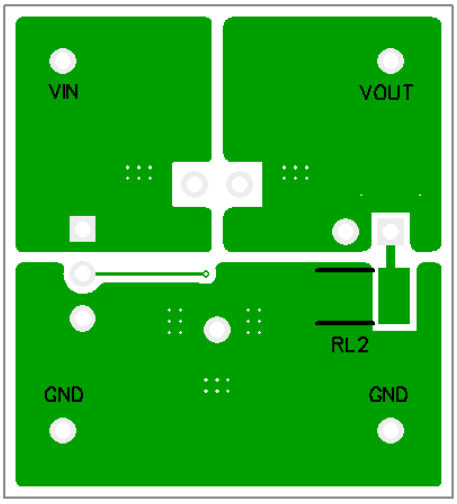


Fig 2. Bottom Layer

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