

GLF2331B

High Precision Current Limit Power Switch

DESCRIPTION

The GLF2331B is an advanced technology fully integrated power switch for applications required precision output current limiting.

The GLF2331B features also various protection functions such as under voltage lockout, true reverse current blocking (T_{RCB}), short circuit protection, and thermal shutdown.

The GLF2331B provides a built-in output voltage slew rate control to limit the inrush current and voltage surges. The FLGB output pin can be used to send a signal of fault events to the system controller. The integrated thermal shutdown (T_{SD}) insures complete protection for the switch during output current limit and short circuit conditions. The GLF2331B is an ideal switch for USB power supply.

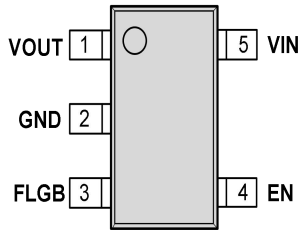
FEATURES

- Fixed Constant Output Current Limit, 1.3 A Typ
- Input Range: 2.5 V to 5.5 V
- Low R_{ON} : 53 m Ω Typ. @ 5 V_{IN}
- Ultra-Low I_Q : 18 μ A Typ. @ 5 V_{IN}
- Ultra-Low I_{SD} : 35 nA Typ. @ 5 V_{IN}
- Under Voltage Lockout Protection
- Output Voltage Slew Rate Control
- True Reverse Current Blocking Protection
- Short Circuit Protection
- Deglitched Fault Flag Indication
- Integrated Output Discharge Switch
- Thermal Shutdown Protection

PRODUCT TABLE

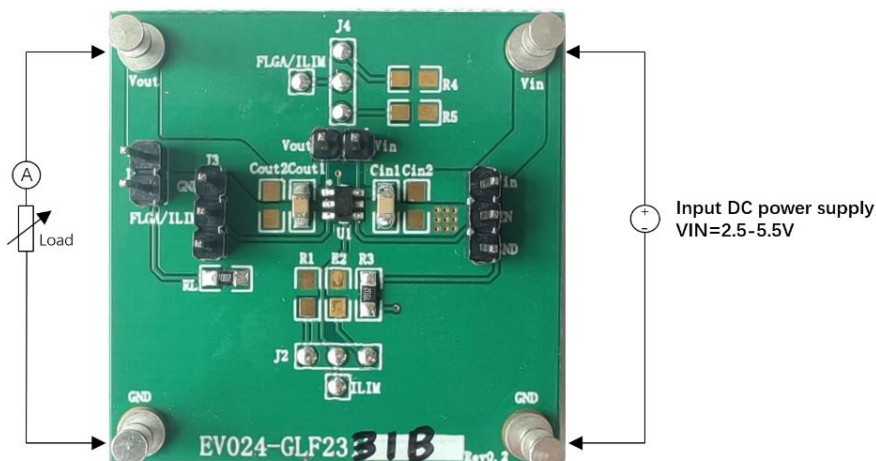
Part Number	Top Mark	Current Limit ILIM	Output Discharge	Fault Flag FLGB	EN Activity	Package
GLF2331B-T1G7	KE	1.3 A Typ Fixed	300 Ω	Yes	High	SOT23-5L

EVALUATION BOARD, DEVICE PACKAGE, AND PINOUT



Pin #	Name	Description
1	VOUT	Switch Output
2	GND	Ground
3	FLGB	Flag pin goes low to indicate OCP, SC, TRCB, UVLO and TSD fault conditions
4	EN	Active high switch output enables to control the switch
5	VIN	Switch Input. Supply voltage for IC

TEST SETUP



QUICK START GUIDE

1. The evaluation board EV024 is easy to set up to evaluate the performance of GLF2331B. Preset the input power supply to the desired voltage between 2.5 V to 5.5 V.

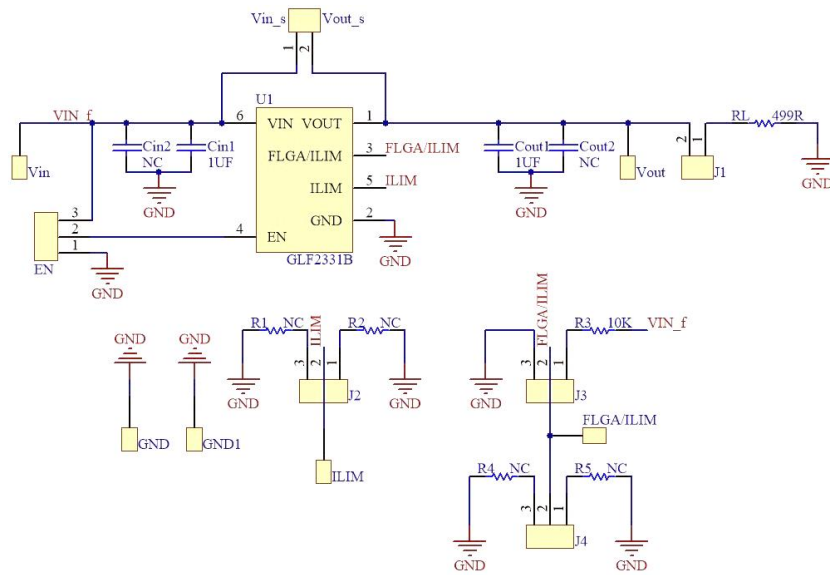
2. The load resistor, $R_L=499 \Omega$, has been populated on the top of the PCB board. Short the J1 to use the R_L . To increase the output current, connect an electronic load to V_{OUT} and GND. The GLF2331B is rated for 1.3 A maximum continuous output current. Please ensure the absolute maximum is not exceeded.

3. Connect the positive and negative terminals of the input power supply to V_{IN} and GND terminals respectively. V_{IN_Sense} and V_{OUT_Sense} can be used for measurement points.

4. For the GLF2331B-T1G7 you can: short the two (excluding GND) pins below (J3) and observe the FLGB signal.

5. Turn on the input power supply. Connect EN to V_{IN} with a jumper, and V_{OUT} will be turned on.

SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/Part Number
1	U1	GLF2331B	Current Limit Power Switch	GLF Integrated Power
2	Cin1, Cout1,	1 µF	Cap., X7R, 1 µF, 50 V, ±10%, 0805	Yageo/CC0805KRX7R9BB105
1	R3	10 KΩ	Res., 10 KΩ, 1/8W, ±1%, 0805	Yageo/RC0805FR-0710KRL
1	RL	499 Ω	Load Resistor	YAGEO RC0805FR-07499RL
2	J2, J3	Jumper	Jumper, 2.54 mm, 3 PIN	-
1	J1	Jumper	Jumper, 2.54 mm, 2 PIN	-
4	VIN, VOUT, GND	-	1514-2	-

PRINTED CIRCUIT BOARD LAYOUT

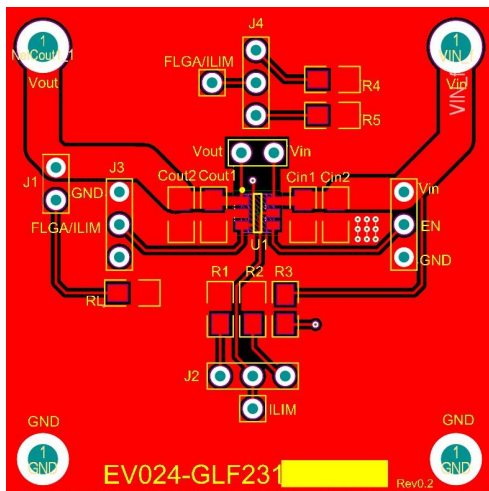


Fig 1. Top Layer

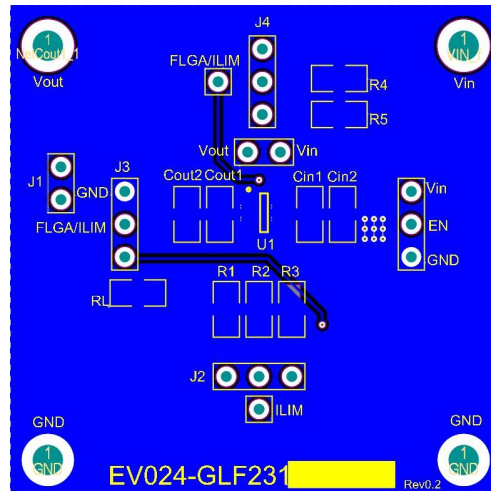


Fig 2. Bottom Layer

NOTICE: The evaluation board provided by GLF Integrated Power is intended for use for ENGINEERING DEVELOPMENT, OR EVALUATION PURPOSES ONLY and is not for any commercial use. The user assumes all responsibility and liability for proper and safe handling of the goods.