GLF2351A

High Precision Programmable Current Limit Power Switch

DESCRIPTION

The GLF2351A is an advanced technology fully integrated power switch for applications required for precision output current limiting. The GLF2351A features also various protection functions such as under voltage lockout, true reverse current blocking (TRCB), short circuit protection, and thermal shutdown.

The GLF2351A 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 (TSD) insures complete protection for the switch during output current limit and short circuit conditions. The GLF2351A is an ideal switch for USB power supply.

FEATURES

- Input Range: 2.5 V to 5.5 V
- Programmable Output Constant Current Limit Range: 40 mA to 2.8 A
- Low R_{ON}: 32 mΩ Typ. at 5 V_{IN}
- Ultra-Low I_Q: 19 μA Typ. at 5 V_{IN}
- Ultra-Low I_{SD}: 63 nA Typ. at 5 V_{IN}
- Under Voltage Lockout Protection
- Output Voltage Slew Rate Controlled
- True Reverse Current Blocking Protection
- Short Circuit Protection
- Deglitched Fault Flag Indication
- Integrated Output Discharge Switch
- Thermal Shutdown Protection

PRODUCT TABLE

Eval Board Ordering Info	Part Number	Current Limit ILIM	Package
EV035-GLF2351A-S3G7	GLF2351A-S3G7	Programmable 40 mA to 2.8 A	CSP 0.97 mm x 1.47 mm

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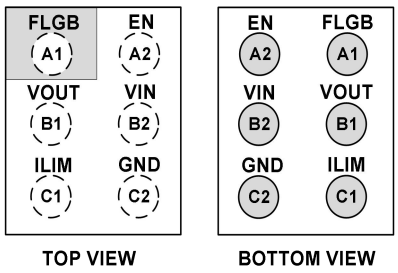
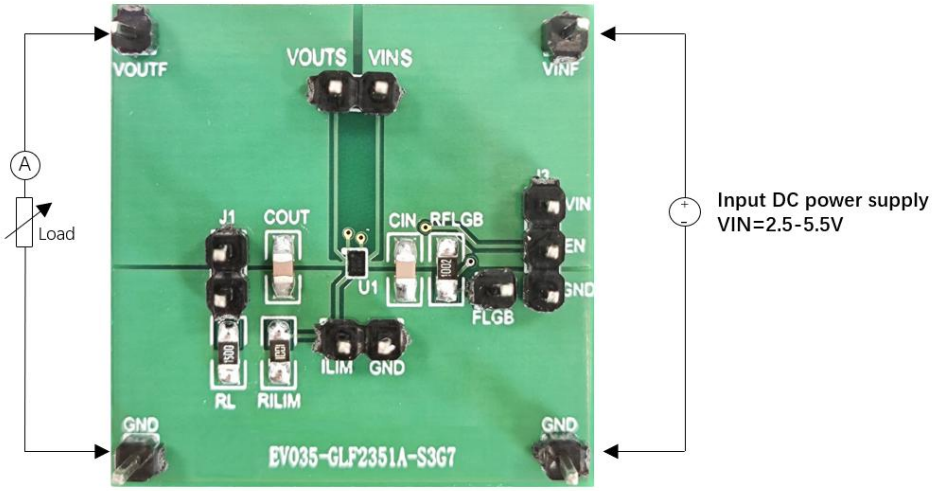
DEVICE PACKAGE AND PINOUT



0.97 mm x 1.47 mm x 0.55 mm WLCSP

Pin #	Name	Description
A1	FLGB	Flag pin goes low to indicate OCP, SC, TRCB, UVLO and TSD fault conditions
A2	EN	Active high switch output enables the device
B1	VOUT	Switch output
B2	VIN	Switch Input. Supply voltage for IC
C1	ILIM	Programmable current limit Do not leave this pin floating.
C2	GND	Ground

TEST SETUP



QUICK START GUIDE

1. The evaluation board EV035 is easy to set up to evaluate the performance of GLF2351A. Preset the input power supply to the desired voltage between 2.5 V to 5.5 V.

2.The load resistor, RL=499 Ω, has been popular used in the PCB board. Link RL into PCB by Shorting the J1 pins. To increase the output current, connect an electronic load to VOUTF and GND. The GLF2351A has a maximum programmable overcurrent limit of 2.8 A. Please ensure the absolute max current is not exceeded.

3. Connect the positive and negative terminals of the input power supply to VINF and GND pins respectively. VINS and VOUTS can be used as test points.

4. There are two ways to adjust the output current limit range. One is to change the RILIM resistance value into target value (refer to Table 1 in the datasheet for details). Another one is to remove the RILIM resistance and to connect the ILIM pin to a resistance box. The FLGB terminal can be used as a test point to check whether the IC is working properly.

5. Turn on the input power supply. Connect EN to VIN with a jumper, and VOUTF will be turned on.

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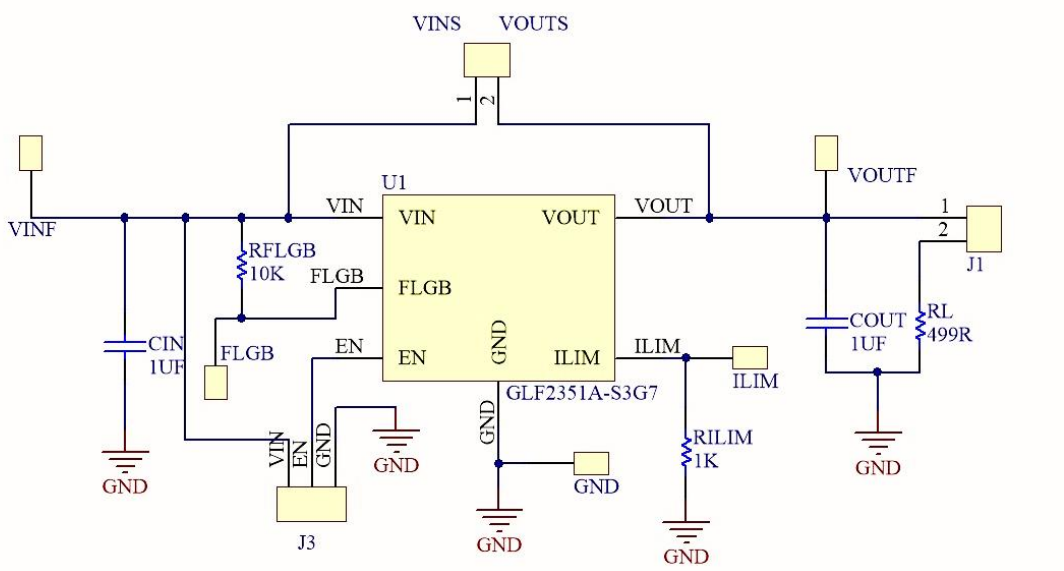
SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/ Part Number
1	U1	GLF2351A	Current Limit Power Switch	GLF Integrated Power
2	CIN, COUT	1 μF	Cap.,1 μF, 50 V, ±10%, 0805	Yageo/CC0805KRX7R9BB105
1	RFLGB	10 KΩ	Res.,10 KΩ, 1/8W, ±1%, 0805	Yageo/RC0805FR-0710KL
1	RILIM	1 KΩ	Res., 1 KΩ, 1/8W, ±1%, 0805	Yageo/RC0805FR-071KL
1	RL	499 Ω	Load Resistor	Yageo/RC0805FR-07499RL
1	J3	Jumper	Jumper, 2.54 mm, 3 PIN	-
2	J1,VINS-VOUTS	Jumper	Jumper, 2.54 mm, 2 PIN	-

PRINTED CIRCUIT BOARD LAYOUT

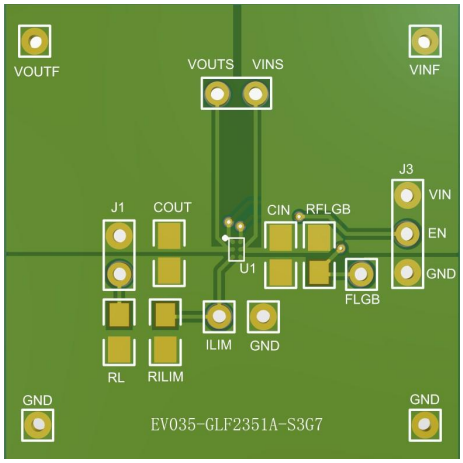


Fig 1. Top Layer

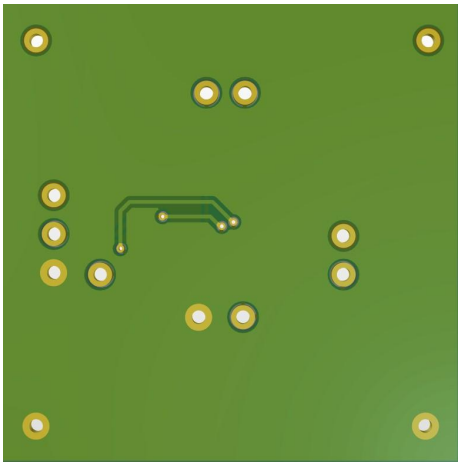


Fig 2. Bottom Layer

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 ass umes all responsibility and liability for proper and safe handling of the goods.

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