GLF2365A
Programmable High Precision Current Limit Power Switch

DESCRIPTION

The GLF2365A is an advanced technology fully integrated power switch for applications that required precision output current limitation. The GLF2365A also features a variety of protection functions, including under voltage lockout, true reverse current blocking (TRCB), short circuit protection, and thermal shutdown.

The GLF2365A provides a built-in output voltage slew rate control to eliminate the inrush current and voltage surge. The FLGB output pin can be used to send a fault event signal to the system controller. The integrated thermal shutdown (TSD) insures complete protection for the switch during output current limit and short circuit conditions. The GLF2365A is an ideal switch for any USB power supply.

FEATURES

- Input Range: 2.5 V to 5.5 V
- Programmable Output Constant Current Limit:
  - Range: 100 mA to 3.0 A
- Low R_{ON}: 56 mΩ Typ. at 5.0 V_{IN}
- Ultra-Low I_Q: 16 μA Typ. at 5.0 V_{IN}
- Ultra-Low I_{SD}: 62 nA Typ. at 5.0 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 I_{LIM}	Output Discharge	Fault Flag FLGB	Package
EV039-GLF2365A	GLF2365A-T2G7	Programmable Output Current Limit Up to 3 A	93 Ω	Yes	SOT23-6L

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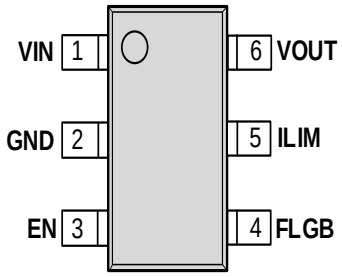
DEVICE PACKAGE AND PINOUT



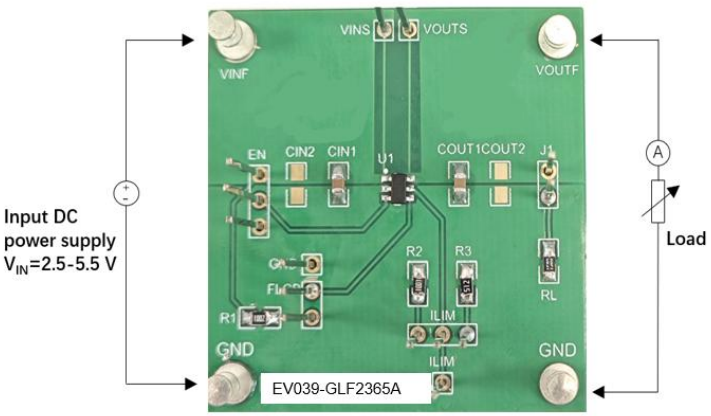
Pin #	Name	Description
1	VIN	Switch Input. Supply voltage for IC
2	GND	Ground
3	EN	Active high switch output enables to control the switch
4	FLGB	FLGB pin goes low to indicate OCP, SC, TRCB and TSD fault conditions
5	ILIM	Programmable current limit. Do not leave this pin floating
6	VOUT	Switch output

QUICK START GUIDE

The evaluation board EV039 is easy to set up to evaluate the performance of GLF2365A. Preset the input power supply to the desired voltage between 2.5 V to 5.5 V.

1. The load resistor, RL=499 Ω, has been populated on the top of the PCB board. Short the J1 to use the RL. To increase the output current, connect an electronic load to VOUT and GND. The GLF2365A is rated for 3 A maximum continuous output current. Please ensure the absolute maximum is not exceeded.
2. Connect the positive and negative terminals of the input power supply to VIN and GND terminals respectively. VINS and VOUTS can be used for measurement points.
3. There are two ways to adjust the output current limit range. One way is to change the R_{ILIM} target value by connecting the ILIM pin on the EVB to R2 on the left ILIM pin or R3 on the right ILIM pin. Another way is to remove the R_{ILIM} resistor and connect the ILIM pin to a resistor box to adjust R_{ILIM} (refer to datasheet Table 1 for details).
4. Turn on the input power. Short the upper two of the EN pins with a jumper so that EN is connected to VIN and VOUT will be turned on.

TEST SETUP



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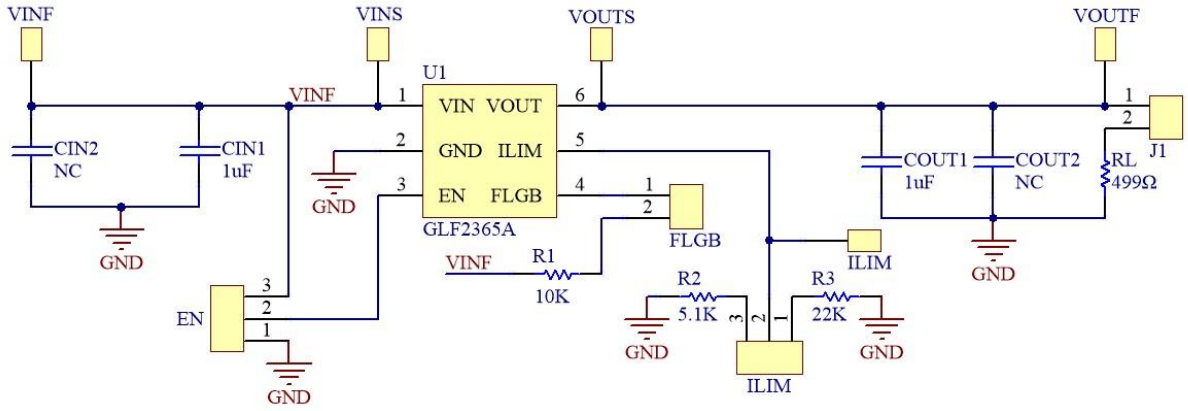
SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/Part Number
1	U1	GLF2365A	Current Limit Power Switch	GLF Integrated Power
2	CIN1, COUT1	1 μF	Cap., X7R, 50 V, ±10%, 0805	Yageo/CC0805KRX7R9BB105
1	R1	10 KΩ	Res., 1/8W, ±1%, 0805	Yageo/RC0805FR-0710KL
1	R2	5.1 KΩ	Res.,1/8W, ±5%, 0805	Yageo/RC0805JR-075K1L
1	R3	22 KΩ	Res.,1/8W, ±1%, 0805	Yageo/RC0805FR-0722KL
1	RL	499 Ω	Load Resistor	Yageo/RC0805FR-07499RL
1	J1	Jumper	Jumper, 2.54 mm, 2 PIN	-
2	ILIM, EN	Jumper	Jumper, 2.54 mm, 3 PIN	-
4	VINF, VOUTF, GND	-	1514-2	-

PRINTED CIRCUIT BOARD LAYOUT

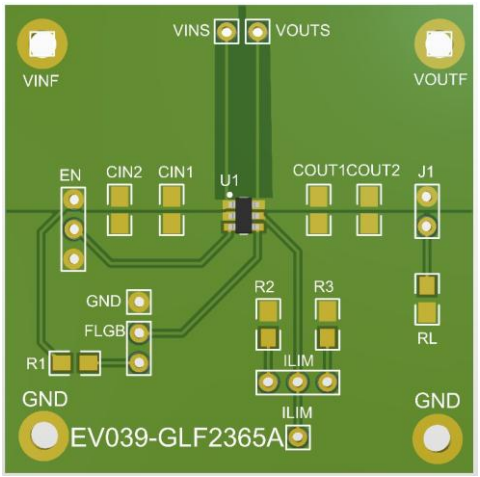


Fig 1. Top Layer

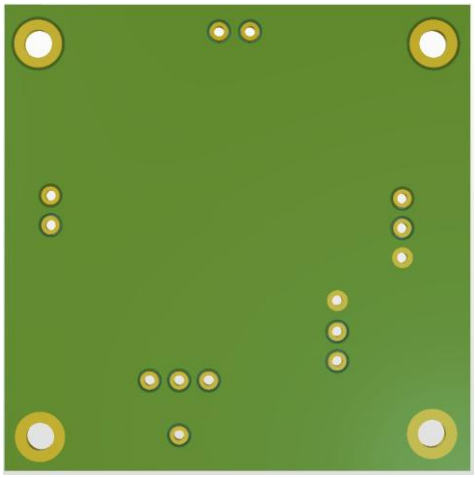


Fig 2. Bottom Layer

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.

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