GLF2204
Over Voltage and Over Current Protection IC

DESCRIPTION

The GLF2204 is an integrated Over voltage protection (OVP) power switch. There are external and internal OVP thresholds. The device provides more protection features which are under voltage lockout, programmable current and thermal shutdown.

The external OVP threshold is adjusted by an external resistor divider from 4.5 V to 9 V. The device has an internal fixed OVP threshold voltage when the OVLO pin voltage is lower than an external OVP set threshold voltage (V_{OVP_TH}). When an input voltage of VIN exceeds the over voltage threshold, the GLF2204 will be turned off immediately to isolate the system from the input source.

FEATURES

- Supply Voltage Range: 3.5 V to 9 V
- Integrated Over Voltage Protection Threshold
  - Internal Fixed 6.85 V Typ
  - Programmable OVP from 4.5 V to 9V
- Low R_{ON}: 188 mΩ Typ at 5 V_{IN}
- Low IQ: 80 μA at 5 VIN
- Under Voltage Lockout
- Programmable Over Current Protection
  - From 300 mA to 2 A
- Active Low FLGB Indication
- Thermal Shutdown Protection
- Internal 19 ms Recovery Delay after Protection

PRODUCT TABLE

Eval Board Ordering Info	Part Number	Top Mark	R_{ON} (Typ) at 5 V_{IN}	Over Current Protection Behavior	EN Activity
EV032_GLF2204	GLF2204-D2G7	FN	188 mΩ	Latch off	Low

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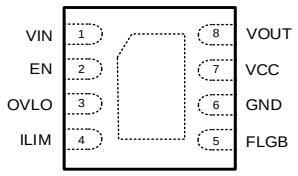
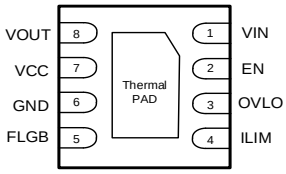
PIN CONFIGURATION AND DEFINITION



TOP VIEW

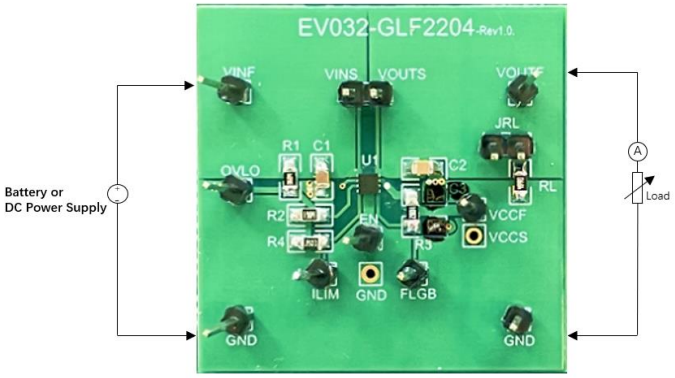


BOTTOM VIEW

DFN 2x2-8L

Pin #	Name	Description
1	VIN	Switch Input. Supply Voltage for IC
2	EN	Active low switch output enables to control the switch, internal pull up
3	OVLO	External OVP programmable pin by the resis tor divider. Tie the OVLO pin to GND to use the internal fixed OVP threshold.
4	ILIM	Programmable current limit Do not leave this pin floating.
5	FLGB	Open-drain output. Power good and fault flag pin.
6	GND	Ground
7	VCC	3.3 V LDO output
8	VOUT	Output of main power switch
Thermal Pad		Connect this pad to GND

TEST SETUP



QUICK START GUIDE

The evaluation board EV032 is easy to set up to evaluate the performance of GLF2204.

1. Preset the input power supply to the desired voltage between 3.5 V to 9 V.
2. The load resistor, RL= 499 Ω, has been populated on the top of the PCB board. Short the jumper JRL to use the RL. To increase the output current, connect an electronic load to VOUTF and GND. The output current of the GLF2204 is rated for 2.0 A maximum output continuous current. Please ensure the absolute maximum currents is not exceeded.
3. Currently, the external OVP mode is configured on the EVB (OVP set=5.6V Typ) and when OVLO is connected to GND using wires, internal OVP mode will be used (OVP set=6.85V Typ).
4. Currently, R4=150 kΩ is configured on the EVB (OCP set=1.2A Typ). The user can change it according to Figure 24 in the datasheet.
5. VIN1S and VOUTS can be used for measurement point. FLGB test points are used to monitor if any protection has occurred.
6. Connect VINF and GND to the positive and negative poles of the DC power supply respectively, connect EN to GND after turning on the power and VOUT will turn on. When the EN is disconnected from GND or the EN is connected to a level less than 6V, VOUT will be turn off.

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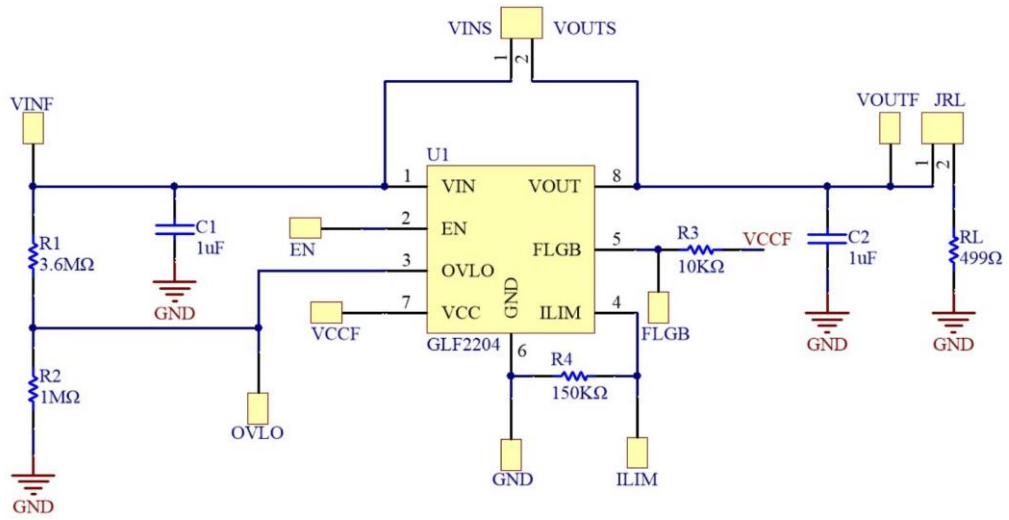
SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/Part Number
1	U1	GLF2204	OVP+OCP Protection IC	GLF Integrated Power
2	C1, C2	1 μF	Cap., X5R, 25V, 10% 0805	YAGEO CC0805JKX7R7BB105
1	R1	3.6 MΩ	Res., 1%, 0805	YAGEO RC0805FR-073M6L
1	R2	1 MΩ		YAGEO RC0805FR-071ML
1	R3	10 KΩ		YAGEO RC0805FR-0710KL
1	R4	150 KΩ		YAGEO RC0805FR-07150KL
1	RL	499 Ω		YAGEO RC0805FR-07499RL
1	JRL	Jumper	Jumper	

PRINTED CIRCUIT BOARD LAYOUT

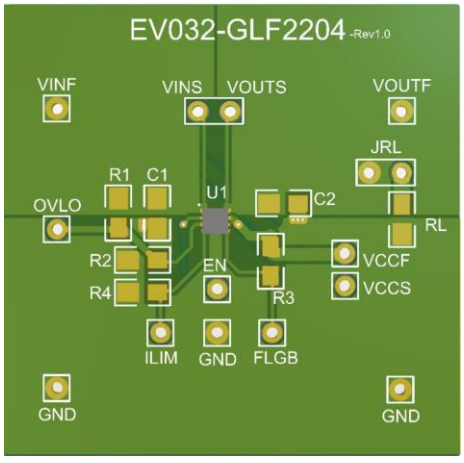


Fig 1. Top Layer

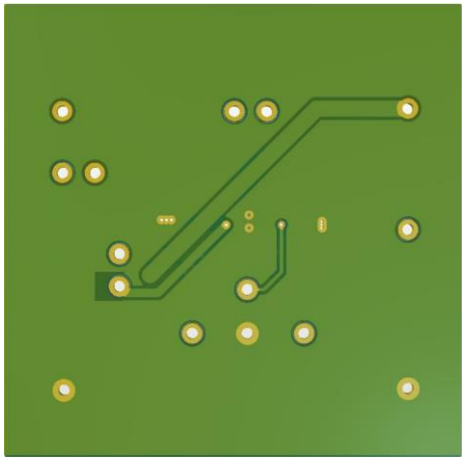


Fig 2. Bottom Layer

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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