GLF1200Q / GLF1201Q
Nano Current Power I_QSmart™ Switch with True Reverse Current Blocking

DESCRIPTION

The GLF1200Q / GLF1201Q is an advanced technology fully integrated I_QSmart™ load switch device with True Reverse Current Blocking (TRCB) technology and the slew rate control of the output voltage. The best in class efficiency makes it an ideal choice for electronics requiring operation under the high temperature up to 125 °C.

The GLF1200Q / GLF1201Q offers an industry leading True Reverse Current Blocking (TRCB) performance, featuring an ultra-low threshold voltage. It minimizes reverse current flow in an event that the VOUT pin voltage exceeds the VIN voltage.

An integrated slew rate control can also enhance system reliability by mitigating bus voltage swings during switching events. Where uncontrolled switches can generate high inrush currents that result in voltage droop and/or bus reset events, the GLF slew rate control specifically limits inrush currents during turn-on to minimize voltage droop.

FEATURES

- AEC-Q100 Qualified
- Qualified for Automotive Applications:
  Temperature Grade 1: Ambient Operating Temperature Range: - 40 °C ~ +125 °C
- Wide Input Range: 1.5 V to 5.5 V
  6 V abs max
- True Reverse Current Blocking
- R_{ON}: 60 mΩ Typ at 5.5 V_{IN}
- I_{OUT} Max: 2 A
- Ultra-Low I_Q: 0.48 µA Typ at 5.5 V_{IN}
- Ultra-Low I_{SD}: 25 nA Typ at 5.5 V_{IN}
- Controlled Rise Time: 600 µs at 3.3V_{IN}
- Internal EN Pull-Down Resistor on
- ESD Performance Tested per AEC Q100
  HBM: 4 kV, CDM: 2 kV
- Moisture Sensitivity Level: MSL-3 and 260 °C Peak Reflow Temp
- Lead-free, Halogen-free, and Adhere to RoHS Directive

PRODUCT TABLE

Eval Board Ordering Info	Part Number	Top Mark	TRCB	R_{ON} (Typ) at 5.5 V_{IN}	Output Discharge	EN Activity
EV021-GLF1200Q	GLF1200Q-T1G7	DM	Yes	60 mΩ	NA	High
EV021–GLF1201Q	GLF1201Q-T1G7	DN			85 Ω	

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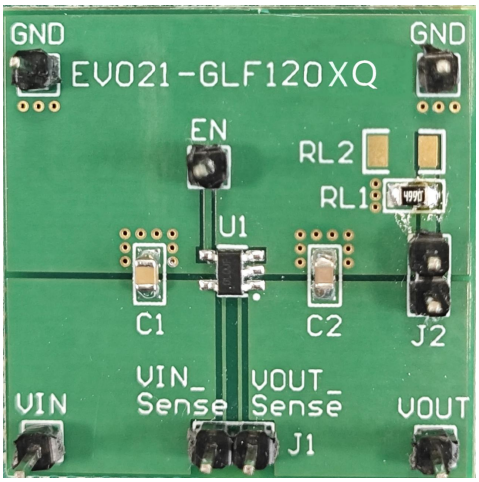
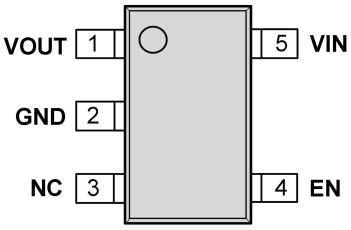
EVALUATION BOARD, DEVICE PACKAGE, AND PINOUT





SOT23-5L

Pin #	Name	Description
1	VOUT	Switch Output
2	GND	Ground
3	NC	No connection
4	EN	Enable to control the switch
5	VIN	Switch Input. Supply Voltage for IC

QUICK START GUIDE

The evaluation board EV021 is easy to set up to evaluate the performance of GLF1200Q and GLF1201Q.

1. Preset the input power supply to the desired voltage between 1.5 V to 5.5 V.
2. The load resistor, RL1=499 Ω, has been populated on the top of the PC board. Short the J2 to use the RL1=499 Ω. To increase the output current, connect an electronic load to VOUT and GND. The output current for the GLF1200Q and GLF1201Q is rated for 2 A maximum output continuous current. 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 EN pin as required. Enable logic is active high.

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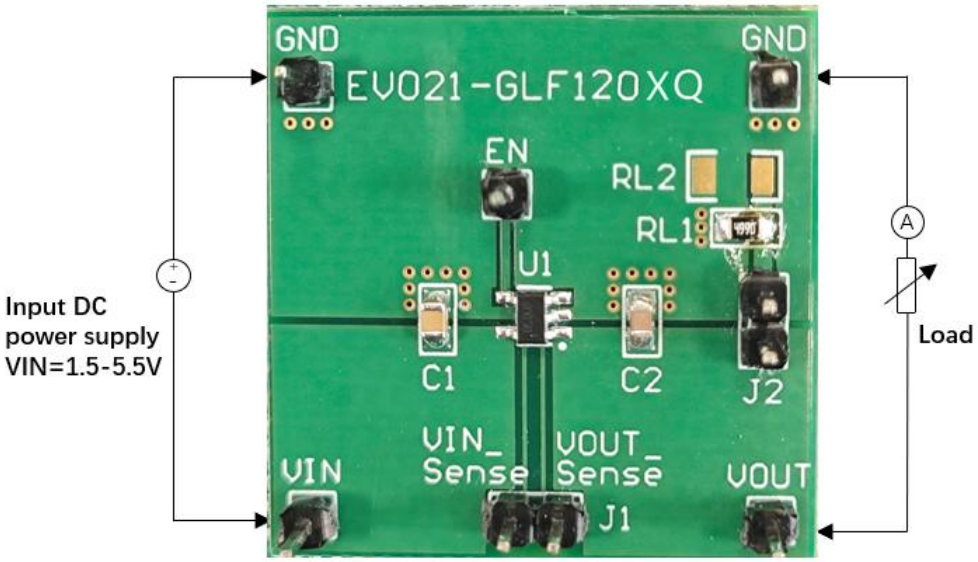
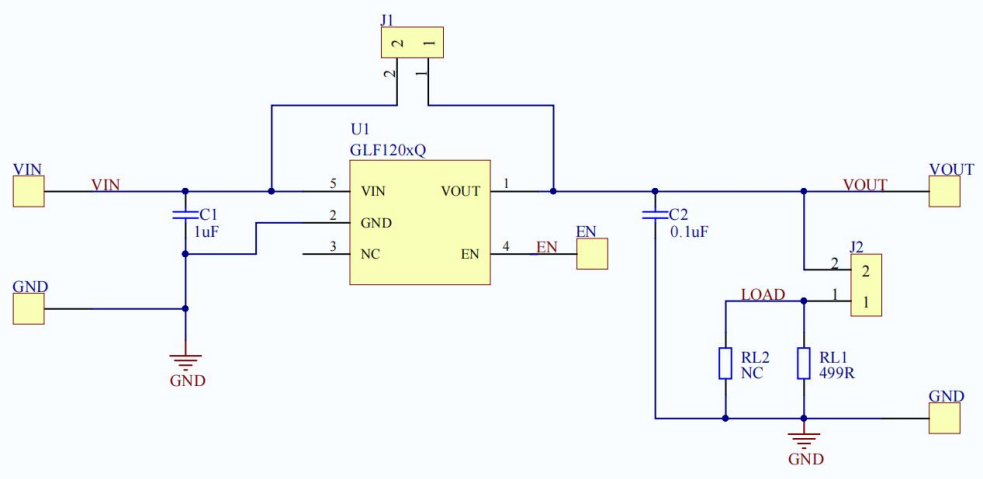
TEST SETUP



SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Note
1	U1	GLF1200Q or GLF1201Q	GLF1200Q / GLF1201Q	GLF Integrated Power
1	C1	1 μF	Cap., X7R, 50V, 10 % 0805	YAGEO CC0805KKX7R9BB105
1	C2	0.1 μF	Cap., X7R, 50V, 10 % 0805	YAGEO CC0805KKX7R9BB104
1	RL1	499 Ω	Load Resistor	YAGEO RC0805FR-07499RL
1	RL2	-	-	-
2	J1, J2	Jumper	Jumper, 2.54 mm	

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PRINTED CIRCUIT BOARD LAYOUT

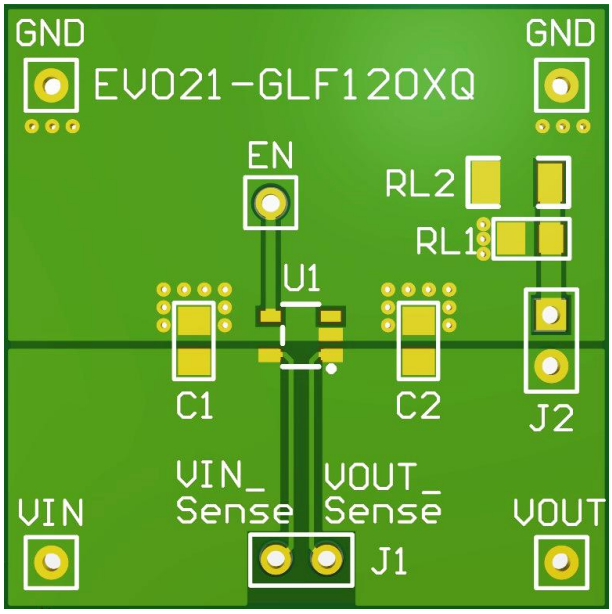

Fig 1. Top Layer

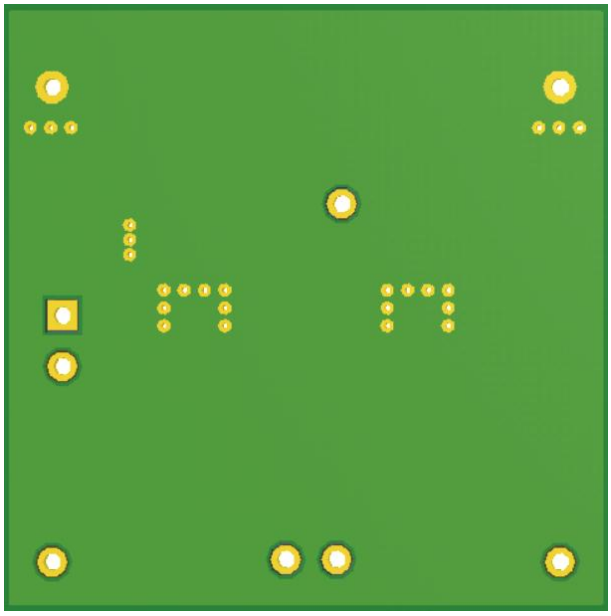

Fig 2. Bottom Layer

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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