GLF1110Q / GLF1111Q
Nano-Current Power I_QSmart™ Load Switch

DESCRIPTION

The GLF1110Q / GLF1111Q is an ultra-efficiency, 2 A rated, Load Switch with integrated slew rate control. The best in class efficiency makes it an ideal choice for electronics requiring operation under the high temperature up to 125 °C.

The GLF1110Q / GLF1111Q features ultra-efficient I_QSmart™ technology that supports the lowest quiescent current (I_Q) and shutdown current (I_{SD}) in the industry. Low I_Q and I_{SD} solutions help designers to reduce parasitic leakage current, improve system efficiency, and increase battery lifetime.

The 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.

The GLF1110Q / GLF1111Q supports an industry leading wide input voltage range and helps to improve operating life and system robustness. Furthermore, one device can be used in multiple voltage rail applications which helps to simplify inventory management and reduce operating cost.

FEATURES

- AEC-Q100 Qualified
- Qualified for Automotive Applications:
  Temperature Grade 1: Ambient Operating Temperature Range: -40 °C ~ +105 °C
- Wide Input Range: 1.5 V to 5.5 V
  6 V_{abs} max
- R_{ON}: 60 mΩ Typ at 5.5 V_{IN}
- I_{OUT} Max: 2 A
- Ultra-Low I_Q: 2 nA Typ at 5.5 V_{IN}
- Ultra-Low I_{SD}: 13 nA Typ at 5.5 V_{IN}
- Controlled Rise Time: 600 µs at 3.3 V_{IN}
- Internal EN Pull-Down Resistor
- Integrated Output Discharge Switch: GLF1111Q
- ESD Performance Tested per AEC Q100
  HBM: 4 kV, CDM: 2 kV
- Moisture Sensitivity Level: MSL-3
- Lead-free, Halogen-free, and adhere to RoHS Directive

PRODUCT TABLE

Eval Board Ordering Infor	Part Number	Top Mark	R_{ON} (Typ) at 5.5 V	Output Discharge	EN Activity
EV021 – GLF1111Q	GLF1111Q-T1G7	DLQ	60 mΩ	85 Ω	High
EV021 – GLF1110Q	GLF1110Q-T1G7	DKQ	60 mΩ	NA	High

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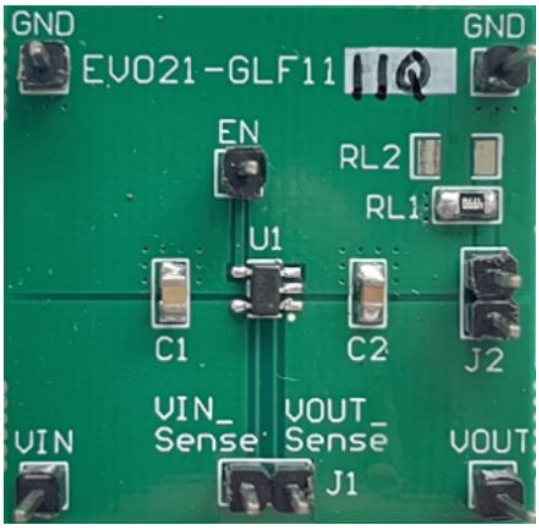
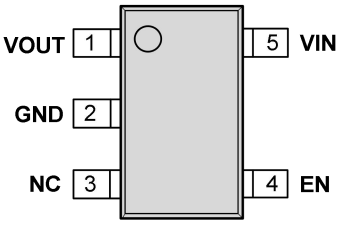
EVALUATION BOARD, DEVICE PACKAGE, AND PINOUT





SOT23-5L

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

QUICK START GUIDE

The evaluation board EV021 is easy to set up to evaluate the performance of GLF1110Q / GLF1111Q.

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 GLF1110Q / GLF1111Q 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.

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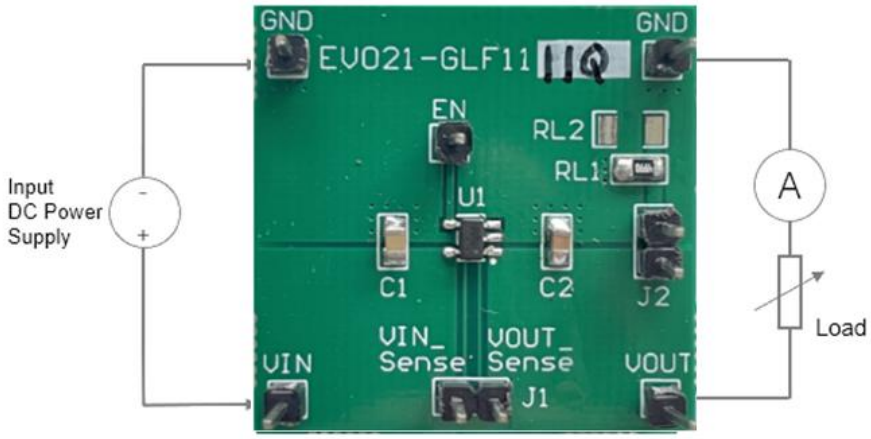
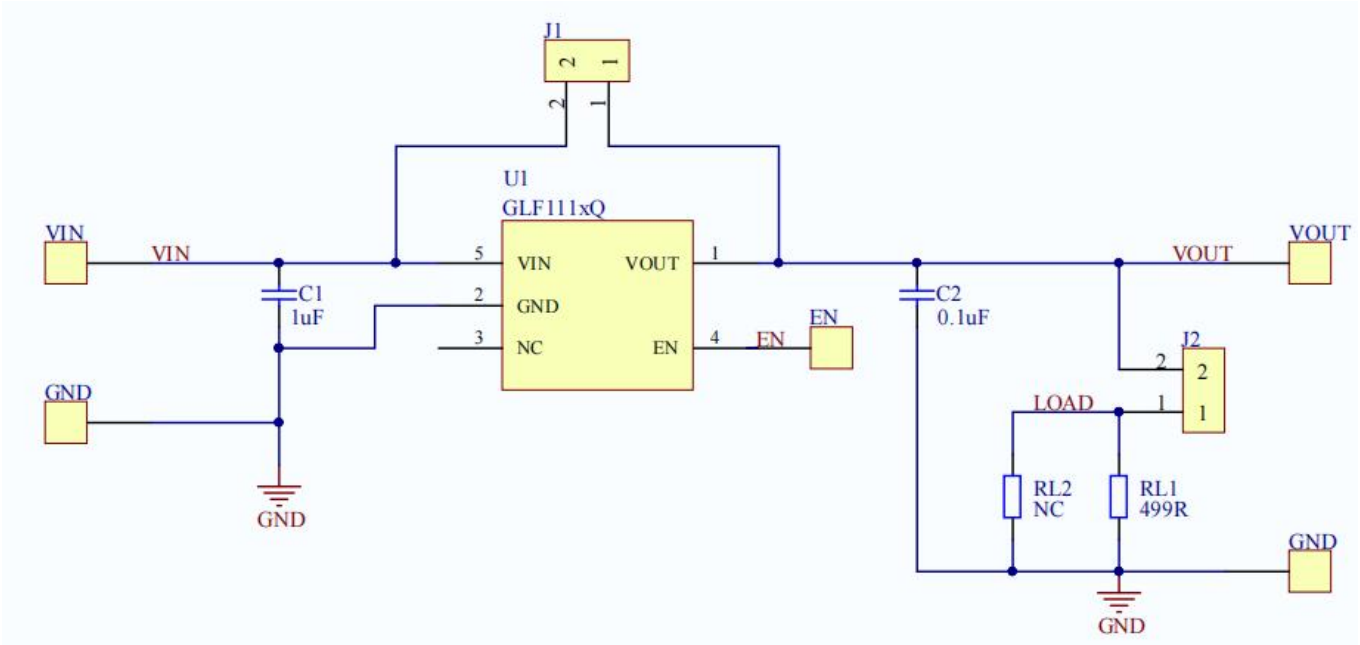
TEST SETUP



SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Note
1	U1	GLF1110Q/GLF1111Q	GLF1110Q / GLF1111Q	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

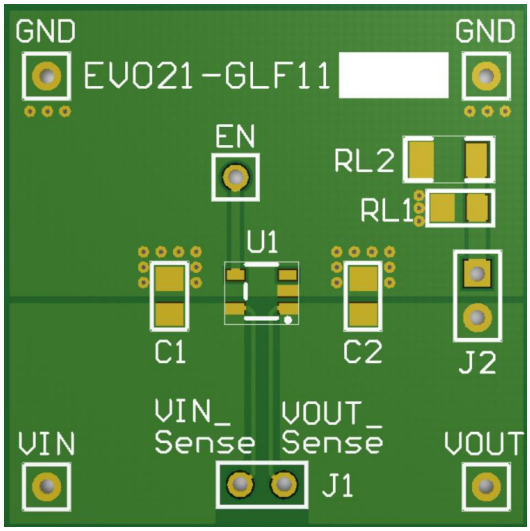
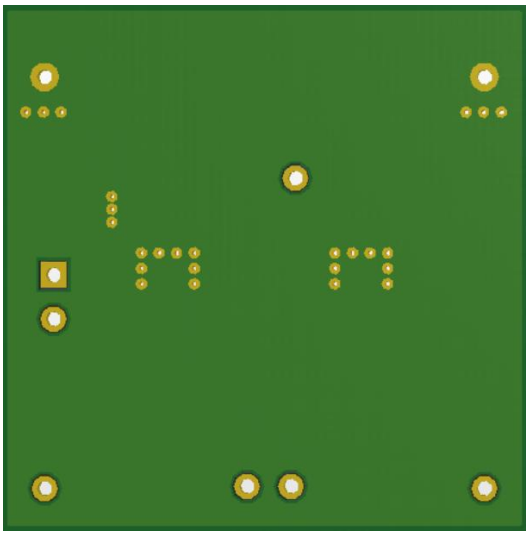


Fig 2. Bottom Layer



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 assu mes all responsibility and liability for proper and safe handling of the goods.

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