GLF7210X

Nano Current Consumed I_QSmart™ Switch with Reverse Current Blocking

DESCRIPTION

The GLF7210X is an advanced technology fully integrated I_QSmart™ load switch device with Reverse Current Blocking (RCB) technology and the slew rate control of the output voltage.

The GLF7210X offers industry leading Reverse Current Blocking (RCB) performance, featuring an ultra-low threshold voltage. It minimizes reverse current flow in the event that the VOUT pin voltage exceeds the VIN voltage.

The GLF7210X has industry leading efficiency. It features a R_{ON} as low as 37 mΩ typical at 5.5 V, reducing power loss during conduction. The device also features ultra-low shutdown current (I_{SD}) to reduce power loss and battery drain in the off state. When EN is pulled low, and the output is grounded, the GLF7210X can achieve an I_{SD} as low as 20 nA typical at 5.5 V.

The GLF7210X load switch device 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 reduces operating cost.

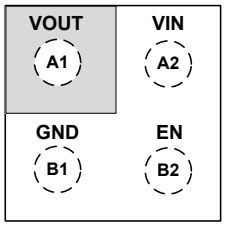
FEATURES

- Reverse Current Blocking
- Ultra-Low I_Q: 0.45 uA Typ @ 5.5 V_{IN}
- Ultra-Low I_{SD}: 20 nA Typ @ 5.5 V_{IN}
- Low R_{ON}: 37 mΩ Typ @ 5.5 V_{IN}
- I_{OUT} Max: 2 A
- Wide Input Range: 1.5 V to 5.5 V
  6 V_{abs} max
- Controlled Rise Time
- Internal EN Pull-up/down Resistor on EN Pin.
- Integrated Output Discharge Switch: GLF72101, GLF72103, GLF72105
- Ultra-Small: 0.77 mm x 0.77 mm

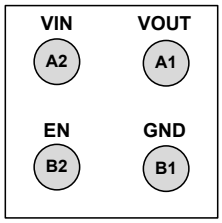
PRODUCT TABLE

Eval Board Ordering Info	Part Number	Top Mark	R_{ON} (Typ.) @ 5.5 Vin	RCB	Output Discharge	EN Activity
EV010-GLF72100	GLF72100	J	37 mΩ	Yes	NA	High
EV010-GLF72101	GLF72101	F	37 mΩ	Yes	85 Ω	High
EV010-GLF72103	GLF72103	M	37 mΩ	Yes	85 Ω	High
EV010-GLF72105	GLF72105	N	37 mΩ	Yes	85 Ω	Low
EV010-GLF72106	GLF72106	d	37 mΩ	Yes	NA	Low

EVALUATION BOARD & DEVICE PACKAGE



TOP VIEW



BOTTOM VIEW

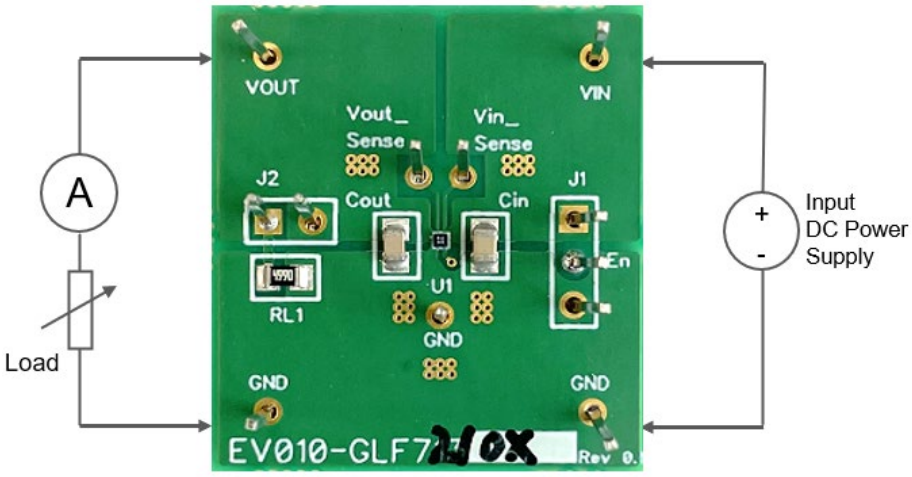
Pin #	Name	Description
A1	VOUT	Switch Output
A2	VIN	Switch Input. Supply Voltage for IC
C1	GND	Ground
C2	EN	Enable to control the switch

QUICK START GUIDE

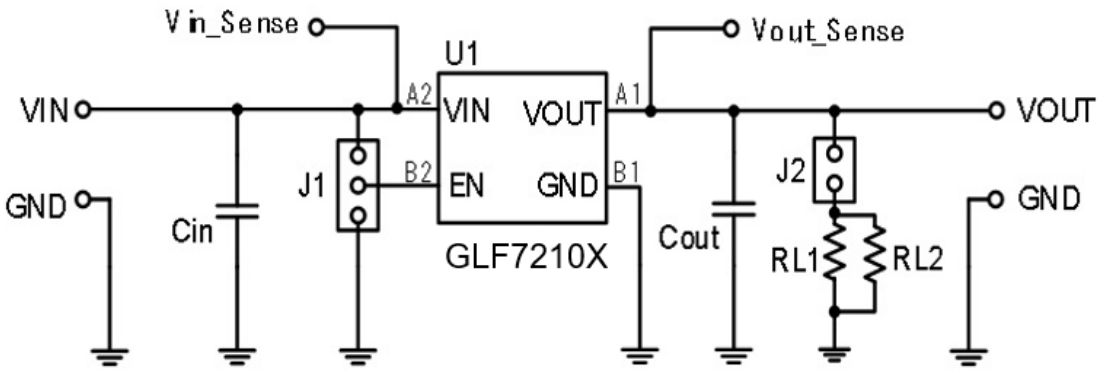
The evaluation board EV010 is easy to set up to evaluate the performance of GLF7210X.

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 bottom of the PC board. Short the J2 to use the RL1= 499 Ω or RL2 which is not populated. To increase the output current, connect an electronic load to VOUT and GND. The output current for the GLF7210X 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 jumper as required.

TEST SETUP:



SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/Part Number
1	U1	GLF7210X	GLF7210X	GLF Integrated Power
1	Cin	1.0 µF	Cap., X7R, 16V, 5% 0805	YAGEO CC0805JKX7R7BB105
1	Cout	0.1 µF	Cap., X7R, 50V, 10% 0805	YAGEO CC0805KRX7R9BB104
1	RL1	499 Ω	Output Resistor	YAGEO RC0805FR-07499RL
1	RL2	-	Output Resistor	Not populated on the bottom
2	J1, J2	Jumper	Jumper	

PRINTED CIRCUIT BOARD LAYOUT

Fig 1. Top Layer

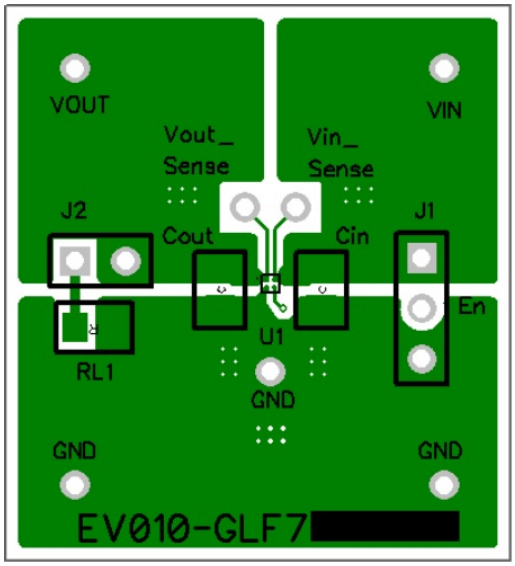
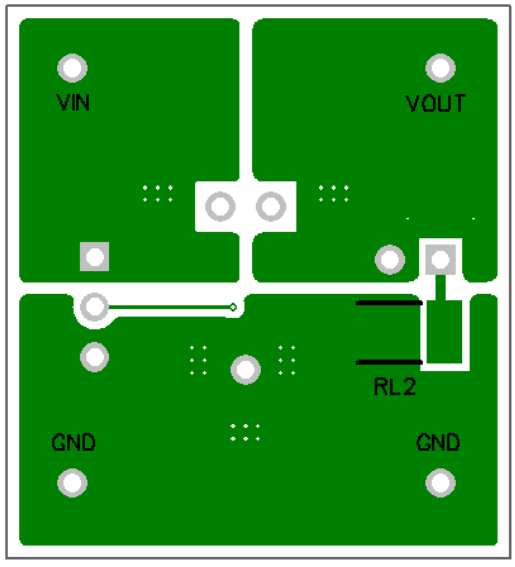


Fig 2. Bottom Layer



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.