

# GLF7252x

## 4 A Ultra Low Current Consumption N-channel Load Switch with Lower Input Voltage Range

### Introduction

The GLF7252x load switch is a fully integrated 4 A NMOS load switch with *I<sub>Q</sub>Smart*<sup>™</sup> advanced technology. The device is targeted for the mobile computing and data storage markets as a high performance and low cost solution for load switch applications. Product table lists a short description of the GLF7252x load switch performance specifications.

The GLF7252x evaluation board (EVB) EV007 supports the user to evaluate GLF72520, GLF72524, GLF72525 and GLF72525T load switches. The test point connections allow the user to test the key parameters like *R<sub>ON</sub>*, rise time and output discharge resistor etc easily.

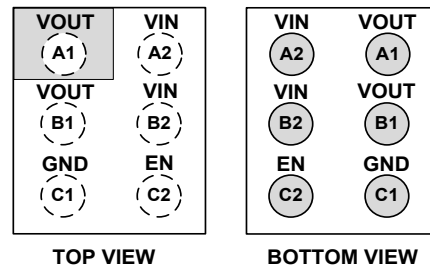
### FEATURES

- Supply Voltage Range:  
0.8 V to 3.6 V GLF72520,  
GLF72524  
0.7 V to 3.6 V GLF72525,  
GLF72525T
- Easy connections to VIN, VOUT, GND and EN of GLF7252x load switch devices
- I<sub>OUT</sub> Max: 4 A
- On board C<sub>IN</sub> and C<sub>OUT</sub> capacitors as well as 150Ω loading resistor

### PRODUCT TABLE

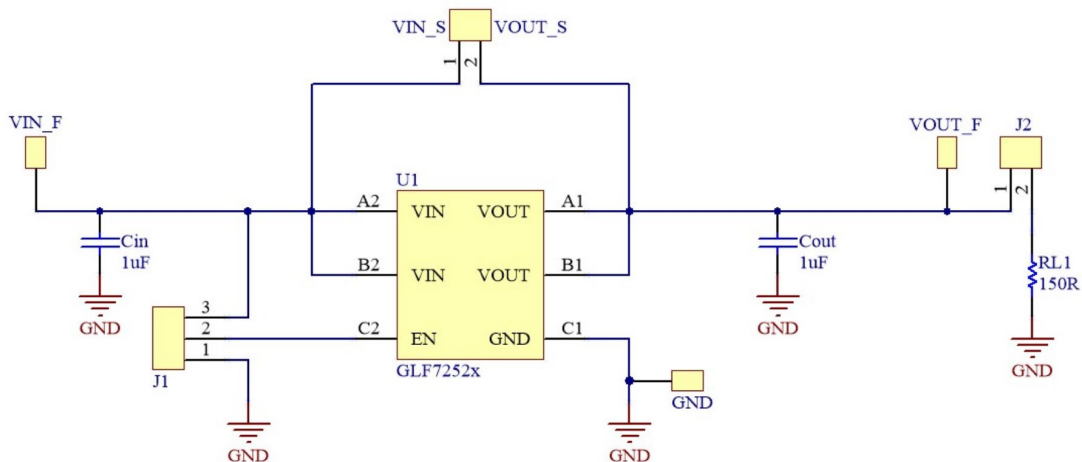
Eval Board Ordering Info	Part Number	R <sub>ON</sub> (Typ.)	Output Discharge	t <sub>r</sub> @3.6V <sub>IN</sub>	EN Activity
EV007-GLF72520	GLF72520	10 mΩ	No	780 μs	High
EV007-GLF72524	GLF72524	10 mΩ	85 Ω	280 μs	High
EV007-GLF72525	GLF72525	9 mΩ	85 Ω	82 μs	High
EV007-GLF72525T	GLF72525T	9 mΩ	85 Ω	82 μs	High

## EVALUATION BOARD & DEVICE PACKAGE



Pin #	Name	Description
A1, B1	V <sub>out</sub>	Switch Output
A2, B2	V <sub>in</sub>	Switch Input. Supply Voltage for IC
C1	GND	Ground
C2	EN	Enable to control the switch

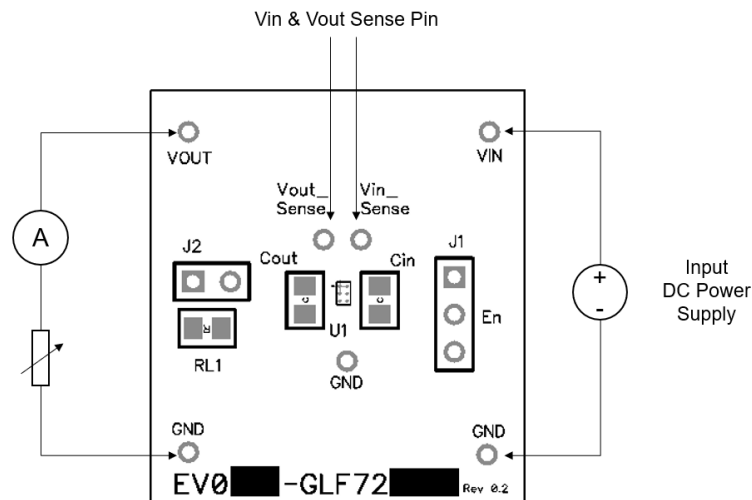
## SCHEMATIC



## BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/ Part Number
1	U1	GLF7252x	GLF7252x	GLF Integrated Power
2	Cin, Cout	1.0 $\mu$ F	Cap., X7R, 50 V, 10% 0805	YAGEO CC0805KKX7R9BB105
1	RL1	150 $\Omega$	Load Resistor	YAGEO RC0805FR-07150RL
2	J1, J2	Jumper	Jumper, 2.54 mm	

## TEST SETUP



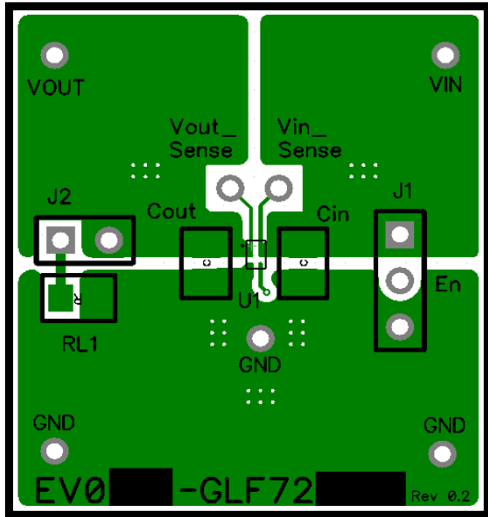
## QUICK START GUIDE

The evaluation board EV007 is easy to set up to evaluate the performance of GLF7252X.

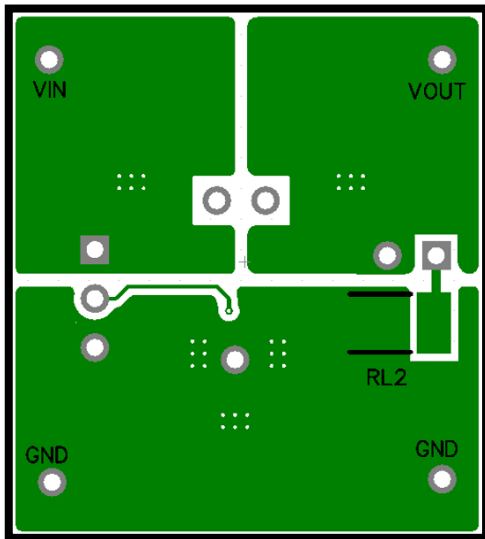
1. Preset the input power supply to the desired voltage. The input voltage range of the GLF72520 and GLF72524 are 0.8 V to 3.6 V, and that of the GLF72525 and GLF72525T are 0.7 V to 3.6 V.
2. The load resistor,  $RL1=150\ \Omega$ , has been populated on the top of the PC board. Short the J2 to use the  $RL1=150\ \Omega$ . To increase the output current, connect an electronic load to VOUT and GND. The output current for the GLF7252x is rated for 4 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 J1, EN jumper as required. Note - GLF7252x as an internal EN pull-down resistor to ensure the part is in a defined state.
6. To test  $I_q$  and  $I_{sd}$ , a high precision multi-meter is needed to be inserted in series with the input power supply. Please note that there is the pull-down resistor at EN pin inside the device, and the current flowing through this resistor should be extracted from the test result.
7. To measure on-resistance  $R_{on}$ , the voltage drop across the switch should be measured at the pins of Vin\_Sense and Vout\_Sense. This value is then divided by the current into the load, yielding the  $R_{on}$  resistance.
8. To test the slew rate, enable the device and apply the input voltage to input pin and ground pin. Capture the waveforms of VIN and VOUT with a scope to measure the slew rate and rise time of the switch.

## PRINTED CIRCUIT BOARD LAYOUT

### Top Layer



### 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.