

GLF74130

4.5 A Power Mux Switch with Auto & Manual Input Selection

DESCRIPTION

The evaluation board EV014 features the GLF74130 I_QSmart™ which are fully integrated power mux switches with two-input and single-output. The EN and SEL pin provide manual and automatic input power source selection between two different power suppliers.

The GLF74130 operates at the wide input range from 1.5 V to 5.5 V and delivers up to 4.5 A per each channel. They include inrush current control and the reverse current blocking protection to avoid unwanted reverse current to input power sources.

FEATURES

- Two-Input and Single-Output Power Multiplexer Switch
- Automatic and Manual Input Selection Modes
- Supply Voltage Range: 1.5 V to 5.5 V
- R_{ON} = 20 mΩ Typ. at 5.5 V_{IN1} or V_{IN2}
- 4.5 A Continuous Output Current Capability Per Channel
- Ultra-Low I_Q: 4 μA Typ at 5.5 V_{IN}
- Ultra-Low I_{SD}: 50 nA Max at 5.5 V_{IN}
- Reverse Current Blocking When Disabled
- HBM: 6 KV, CDM: 2 kV
- 1.27 mm x 1.67 mm, 12 Bump Wafer Level Chip Scale Package

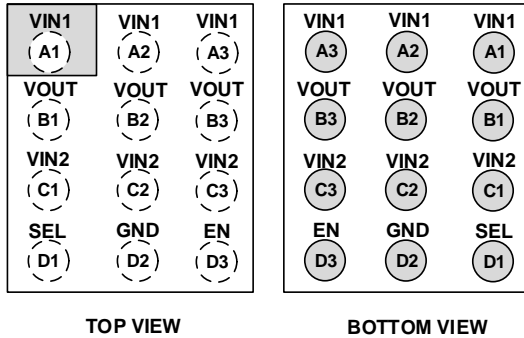
PRODUCT TABLE

Eval Board Ordering Info	Part Number	R _{ON} (Typ.) @ 5.5V _{IN}	EN & SEL Activity
EV014-GLF74130	GLF74130	20 mΩ	High

EVALUATION BOARD & DEVICE PACKAGE



PIN CONFIGURATION



PIN DEFINITION

Pin #	Name	Description
A1, A2, A3	VIN1	Switch Input 1. Supply Voltage
B1, B2, B3	VOUT	Switch Output
C1, C2, C3	VIN2	Switch Input 2. Supply Voltage
D1	SEL	Input Source Selection. Do not leave the SEL pin floating.
D2	GND	Ground
D3	EN	Enable to control the switch. Do not leave the EN pin floating.

QUICK START GUIDE

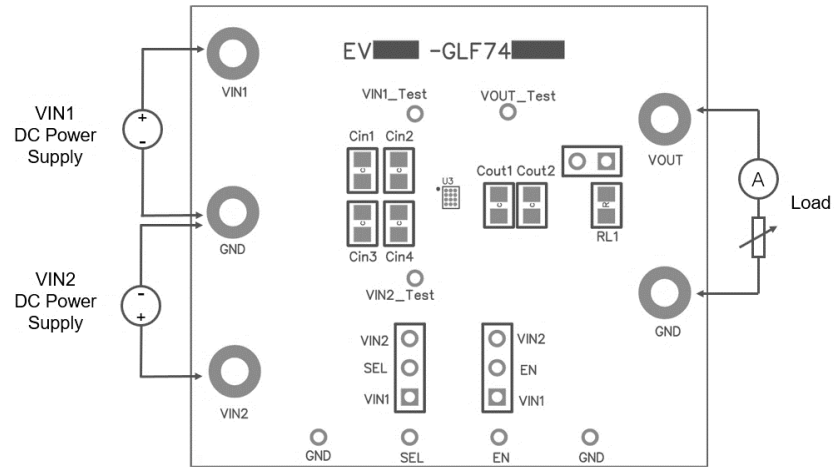
The evaluation board EV014 is easy to set up to evaluate the performance of GLF74130.

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 PCB board. Short the jumper to use the RL1 or RL2 which is not populated. To increase the output current, connect an electronic load to VOUT and GND. The output current for the GLF74130 is rated for 4.5 A maximum output continuous current per each channel. Please ensure this absolute maximum is not exceeded.
3. Connect the positive and negative terminals of the input power supply to VIN and GND respectively. VIN1_Sense, VIN2_Sense, and VOUT_Sense can be used for measurement point.
4. The input source selection function is set by the combination of SEL and EN. See Table 1 below. The SEL pin and the EN pin is connected to one of Input sources by J2 and J1 respectively. Note – Do not leave the SEL and EN pins floating.
5. Turn on the input power supply.

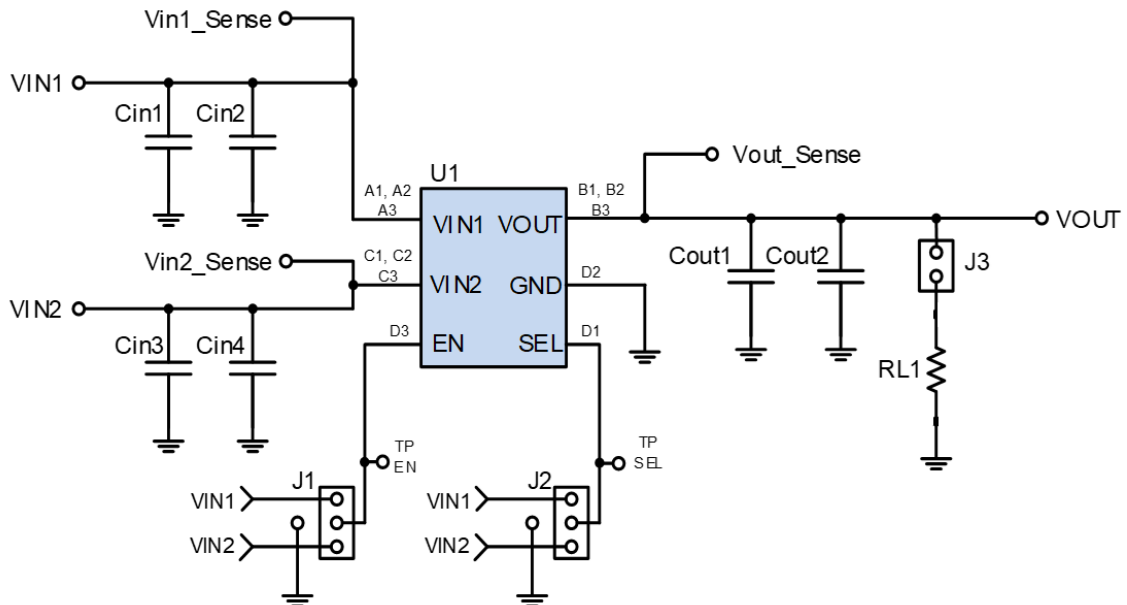
Table 1. Truth Table of Input Source Selection

SEL	EN	Function	VOUT
0	0	Both switches are off.	High-Z
0	1	Auto-Input selection. VOUT is connected to a higher input source automatically.	Higher Input between VIN1 and VIN2
1	0	Only VIN1 is selected.	VIN1
1	1	Only VIN2 is selected.	VIN2

TEST SETUP



SCHEMATIC



BILL OF MATERIALS

Qty	Reference	Value	Part Description	Manufacturer/Part Number
1	U1	GLF74130	GLF74130	GLF Integrated Power
2	Cin2, Cin4	10 uF	Cap., X5R, 25V, 10% 0805	YAGEO CC0805KKX5R8BB106
2	Cout1, Cout2	47 uF	Cap., X5R, 10V, 20% 0805	TDK C2012X5R1A476M125AC
1	Rout1	499 Ω	Output Resistor	YAGEO RC0805FR-07499RL
2	Cin1, Cin3	-	-	Not populated on the top
3	JP1-3	Jumper	Jumper	

PRINTED CIRCUIT BOARD LAYOUT

Fig 1. Top Layer

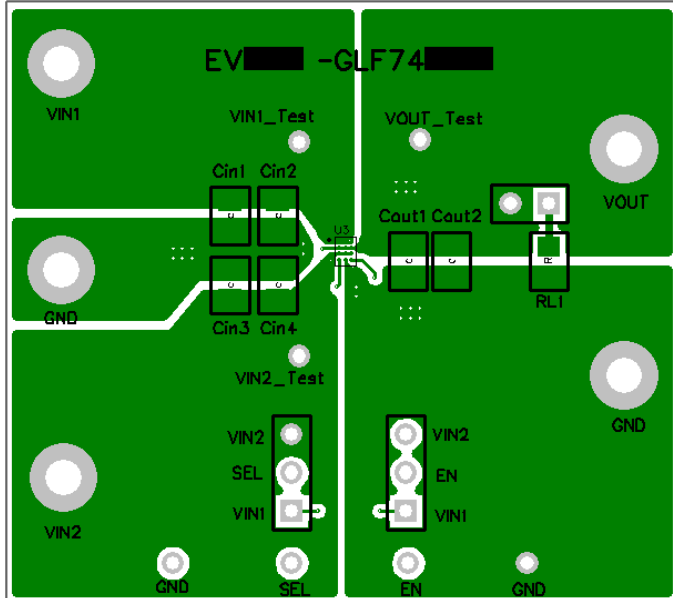
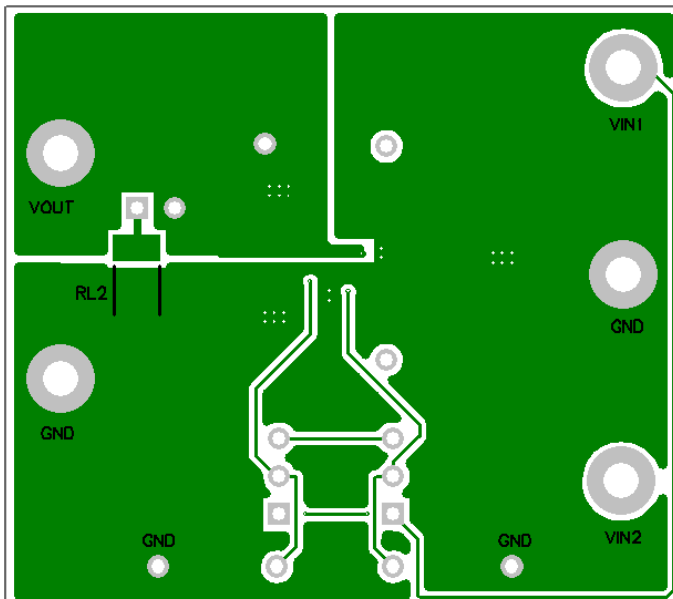


Fig 2. Bottom Layer



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