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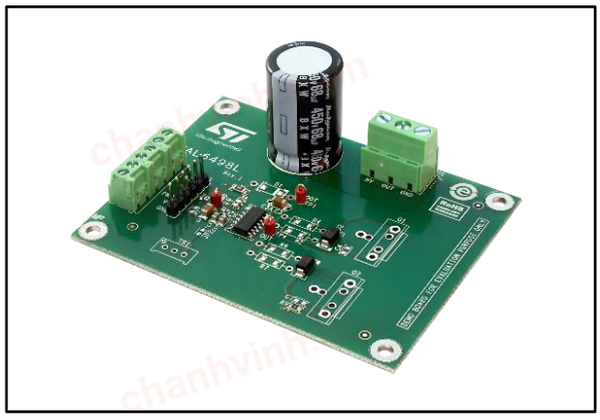
EVAL6498L

Evaluation board for the L6498L gate driver

Data brief



Features

- Driver current capability: 2 A source, 2.5 A sink
- Integrated bootstrap diode
- Interlocking function
- 3.3 V, 5 V TTL/CMOS inputs with hysteresis
- UVLO on both high-side and low-side sections
- dV/dt immunity: 50 V/ns in full temperature range
- Compact and simplified layout
- Bill of material reduction
- Flexible, easy and fast design

Description

The L6498L is a high voltage device developed with the BCD6 “OFF-LINE” technology. It is a single-chip half-bridge gate driver for N-channel power MOSFETs or IGBTs.

Both device outputs can sink 2.5 A and source 2 A, making the L6498 particularly suited for medium and high capacity power MOSFETs\IGBTs.

The integrated bootstrap diode as well as all of the integrated features of this driver make the application PCB design simpler and more compact, and help to reduce the overall bill of material.

The EVAL6498L board allows all the L6498L features to be evaluated while a power switch in TO-220 or TO-247 package is driven.

The board allows the values of relevant external components to be selected and modified so to ease the driver performance evaluation under different applicative conditions and fine pre-tuning of final application components.

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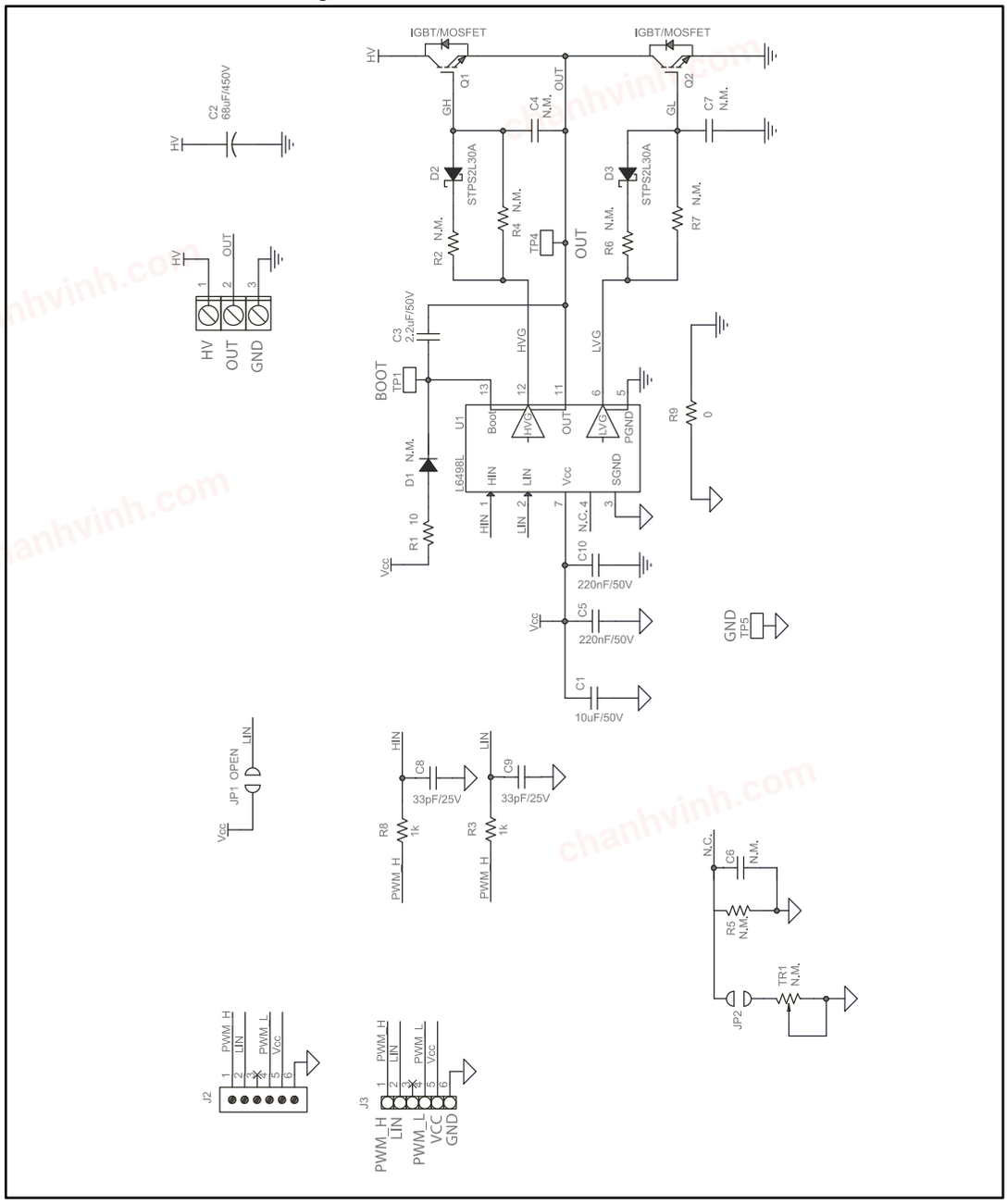
1 Schematic diagram

Figure 1: EVAL6498L circuit schematic



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2 Bill of material

Table 1: EVAL6498L bill of materials

Part reference	Part value	Part description
C1	10 µF / 50 V	Ceramic capacitor, SMT 1206
C2	68 µF / 450 V	Electrolytic cpacitor, 68 µF 450 V 20% radial P7.5 mm 18x25
C3	2.2 µF / 50 V	Ceramic capacitor, SMT 1206 or T.H.
C4,C7	N.M.	Ceramic capacitor, SMT 0805
C5,C10	220 nF / 50 V	Ceramic capacitor, SMT 0805
C6	N.M.	Ceramic capacitor, SMT 0603
C8,C9	33 pF / 25 V	Ceramic capacitor, SMT 0603
D1	N.M.	Diode DO-41 or SMA
D2,D3	STPS2L30A	Diode Schottky 30 V, 2 A, SMA
JP1, JP2	Jumper - open	SMT jumper
J1	Phoenix contact 1985991 or similar	Conn. term. block T.H. 3 POS 5.08 mm
J2	2 x Phoenix contact 1984950 or or similar	Conn. term. block T.H. 6 POS 3.5 mm
J3	FCI 68000-406HLF or similar	Conn. header 6 POS 2.54 mm STR TIN
Q1,Q2	To be selected by customer	IGBT/MOSFET, TO-220 or TO-247
R1	10 Ω	Resistor, SMT 1206
R2,R4, R6,R7	To be selected by customer	Resistor, SMT 1206 or T.H.
R3, R8	1 kΩ	Resistor, SMT 0603
R5	N.M.	Resistor, SMT 0603
R9	0 Ω	Resistor, SMT 0805
TP1,TP4,TP5	RS 200-207 or similar	PCB test terminal 1 mm
TR1	N.M.	Trimmer, 0.5 W, T.H.
U1	L6498LD	High voltage high and low-side gate driver, SO-14

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3 PCB layout

Figure 2: EVAL6498L – layout (top layer)

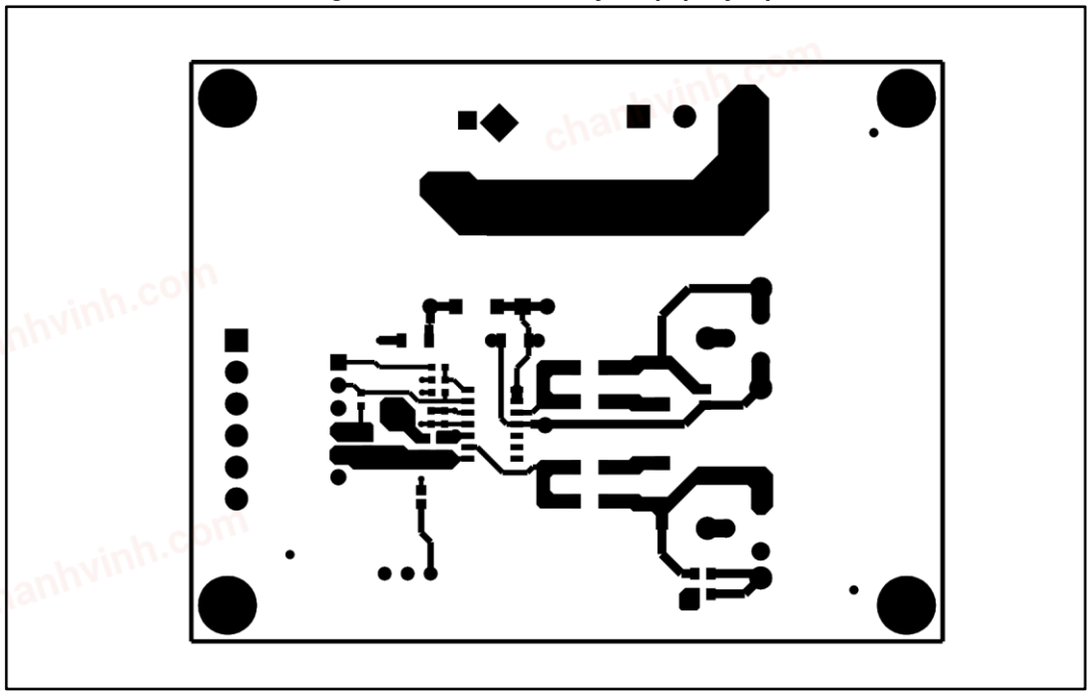

Figure 3: EVAL6498L – layout (bottom layer)

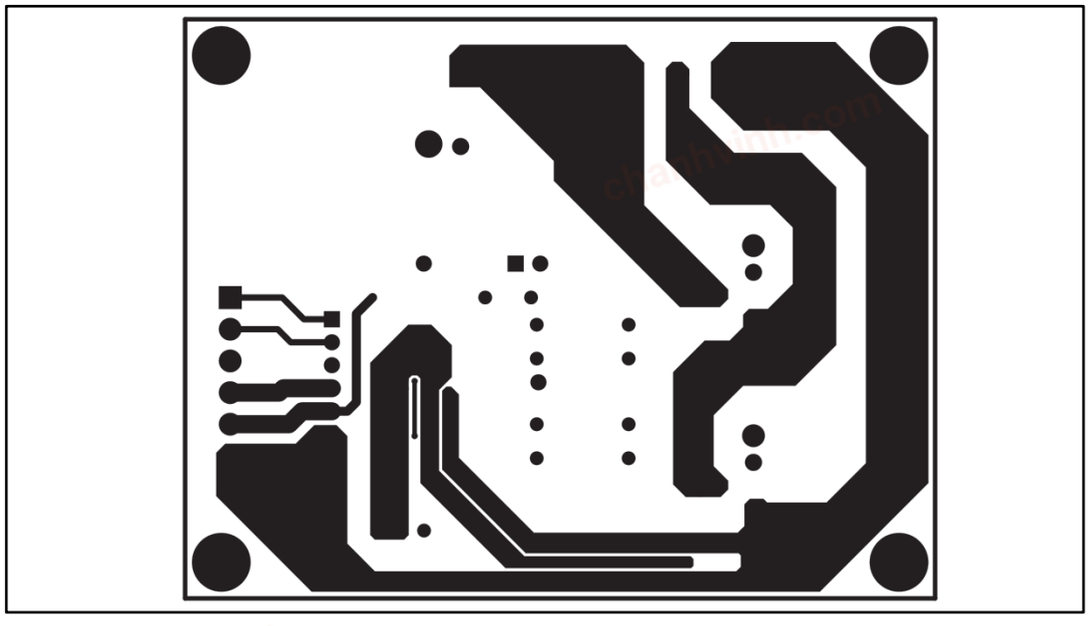

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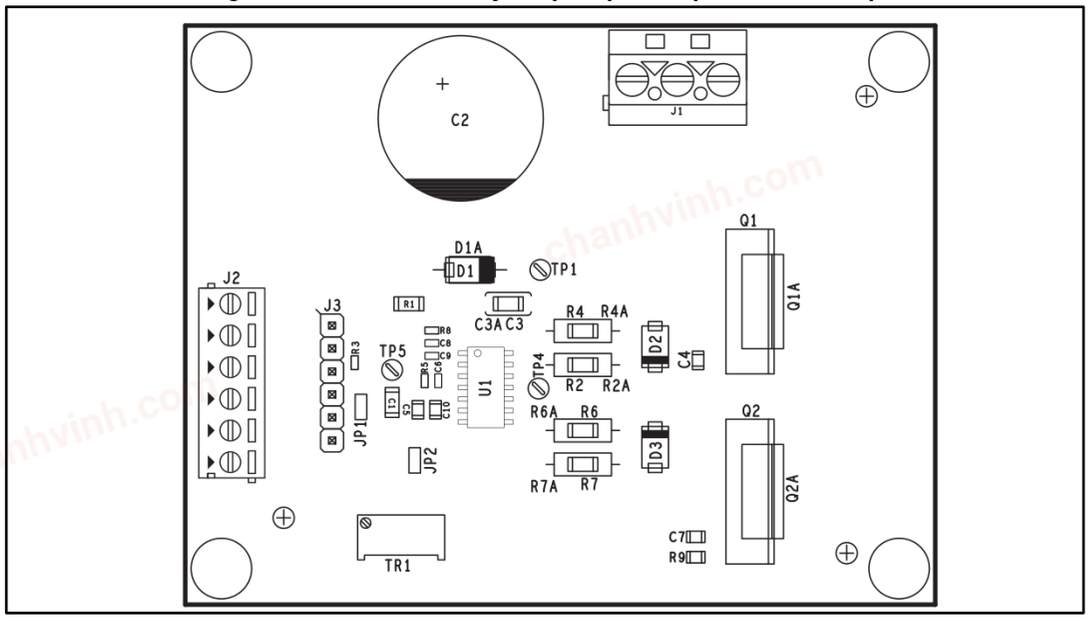
Figure 4: EVAL6498L – layout (component placement view)



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4 Revision history

Table 2: Document revision history

Date	Version	Changes
09-Nov-2017	1	Initial release.

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