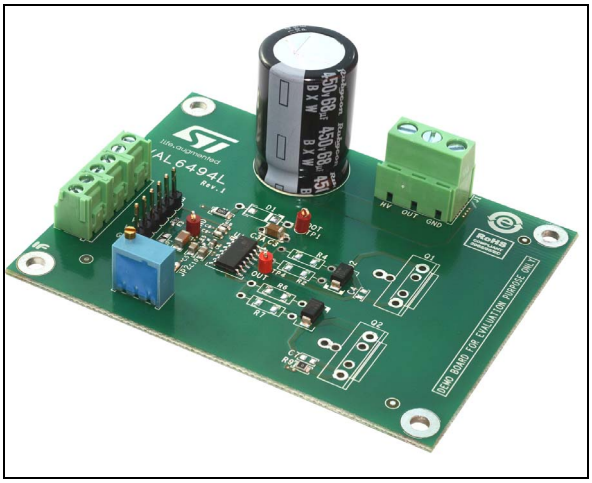
EVAL6494L

Demonstration board for L6494L gate driver

Data brief



Features

- Driver current capability: 2 A source, 2.5 A sink
- Integrated bootstrap diode
- Single input and shutdown pin
- Adjustable deadtime
- 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 L6494L is a high voltage device manufactured 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 L6494L 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's PCB design simpler and more compact, and help reducing the overall bill of material.

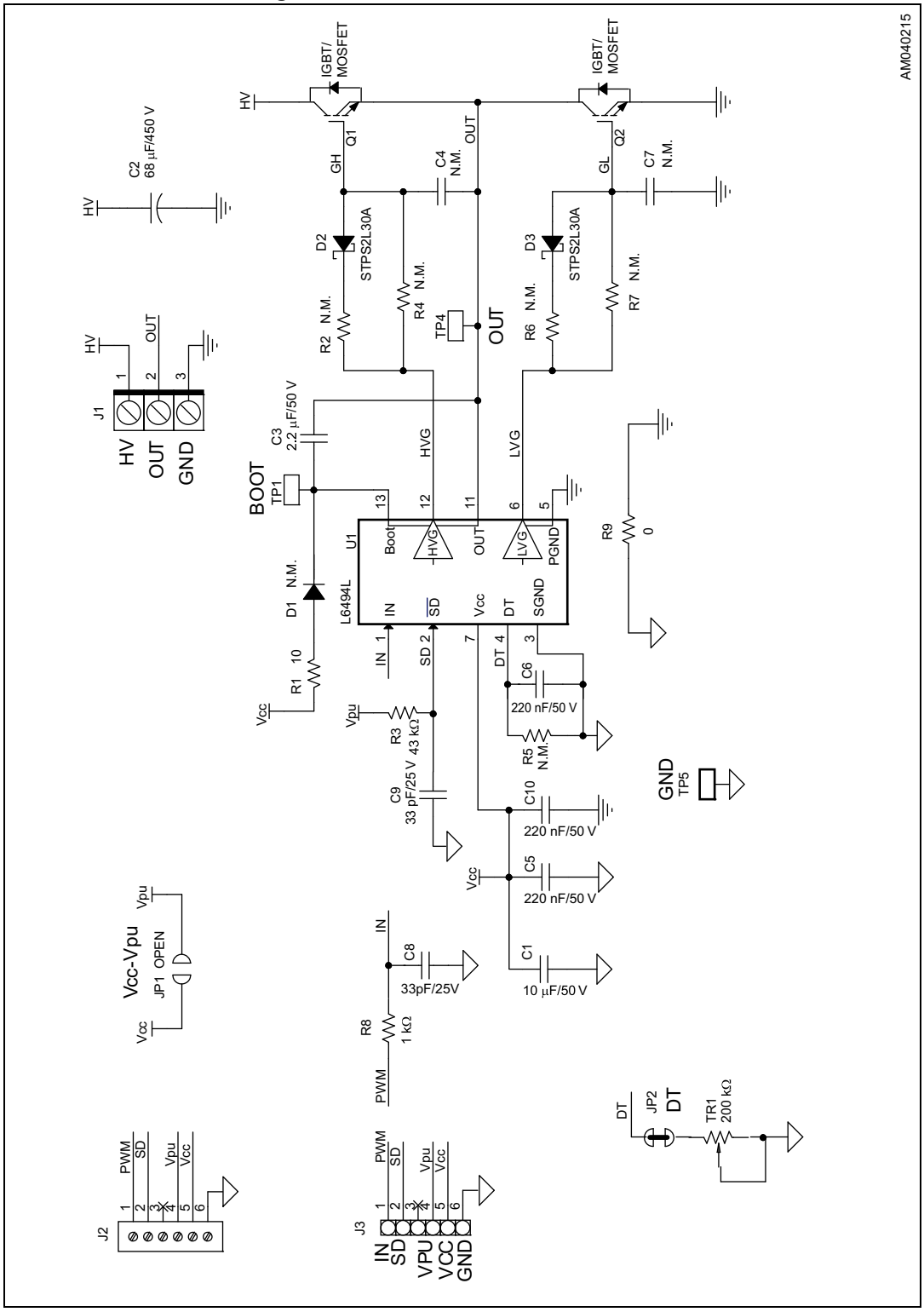
The EVAL6494L board allows evaluating all of the L6494L features while driving a power switch in the TO-220 or TO-247 package.

The board allows easily to select and modify the values of relevant external components in order to ease driver performance evaluation under different applicative conditions and fine pre-tuning of final application components.

For further information contact your local STMicroelectronics sales office. www.st.com

1 Schematic diagram

Figure 1. EVAL6494L circuit schematic



2 Bill of material

Table 1. EVAL6494L - bill of material

Part reference	Part value	Part description
C1	10 µF / 50 V	Ceramic capacitor, SMT 1206
C2	68 µF / 450 V	Electrolytic capacitor, 68 µF, 450 V, 20% radial P7.5 mm 18 x 25
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	220 nF / 50 V	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	Schottky diode 30 V, 2 A, SMA
JP1	Jumper - OPEN	SMT jumper
JP2	Jumper - CLOSED	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 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	43 kΩ	Resistor, SMT 0603
R5	N. M.	Resistor, SMT 0603
R8	1 kΩ	Resistor, SMT 0603
R9	0 Ω	Resistor, SMT 0805
TP1, TP4, TP5	RS 200-207 or similar	PCB test terminal 1 mm
TR1	Murata PV36W204C01B00 or similar	Trimmer 200 kΩ, 0.5 W, T. H.
U1	L6494LD	High voltage high and low-side gate driver, SO-14

3 Layout

Figure 2. EVAL6494L - layout (top layer)

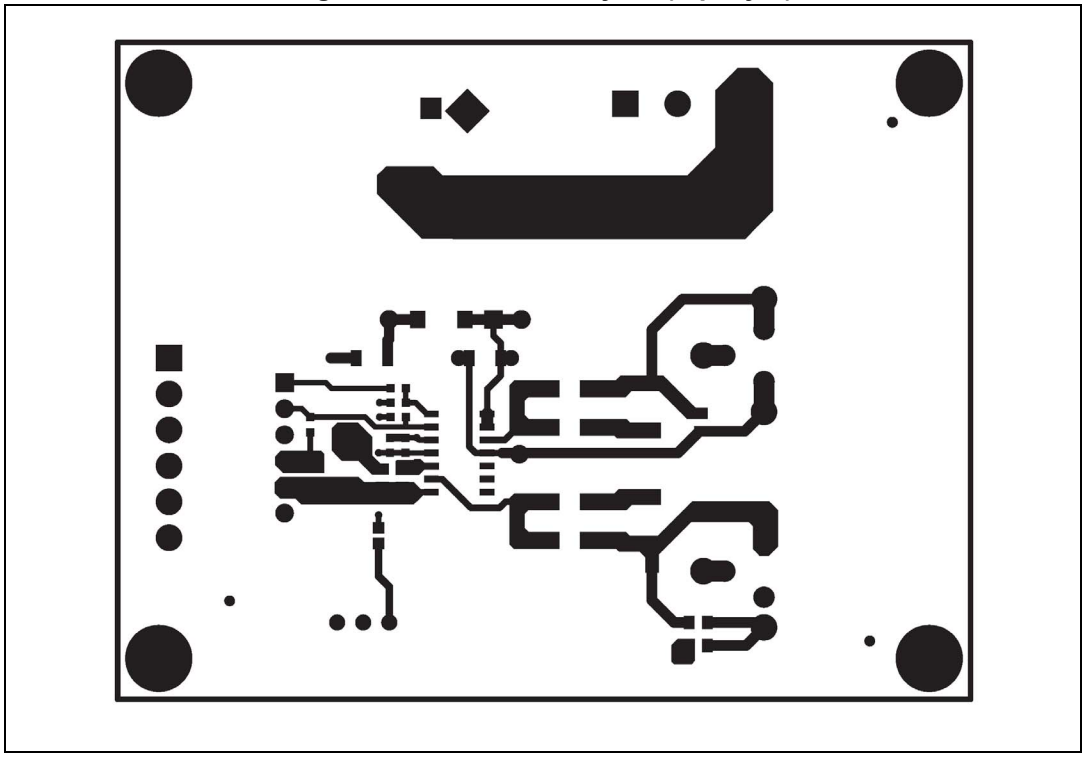


Figure 3. EVAL6494L - layout (bottom layer)

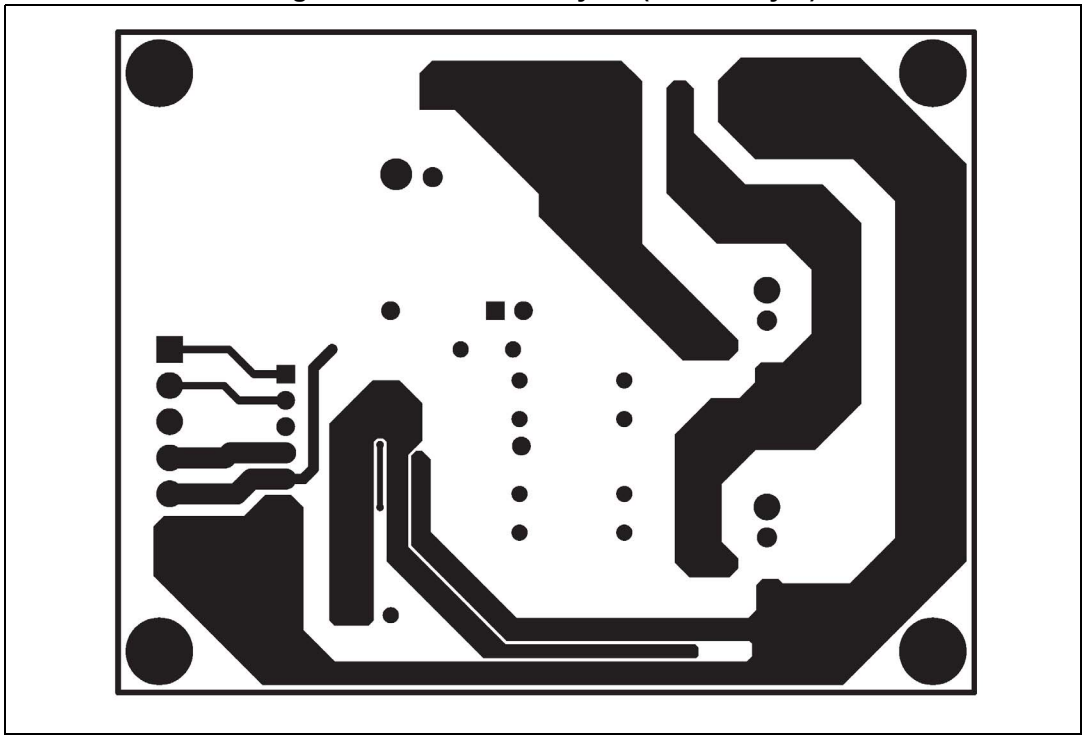
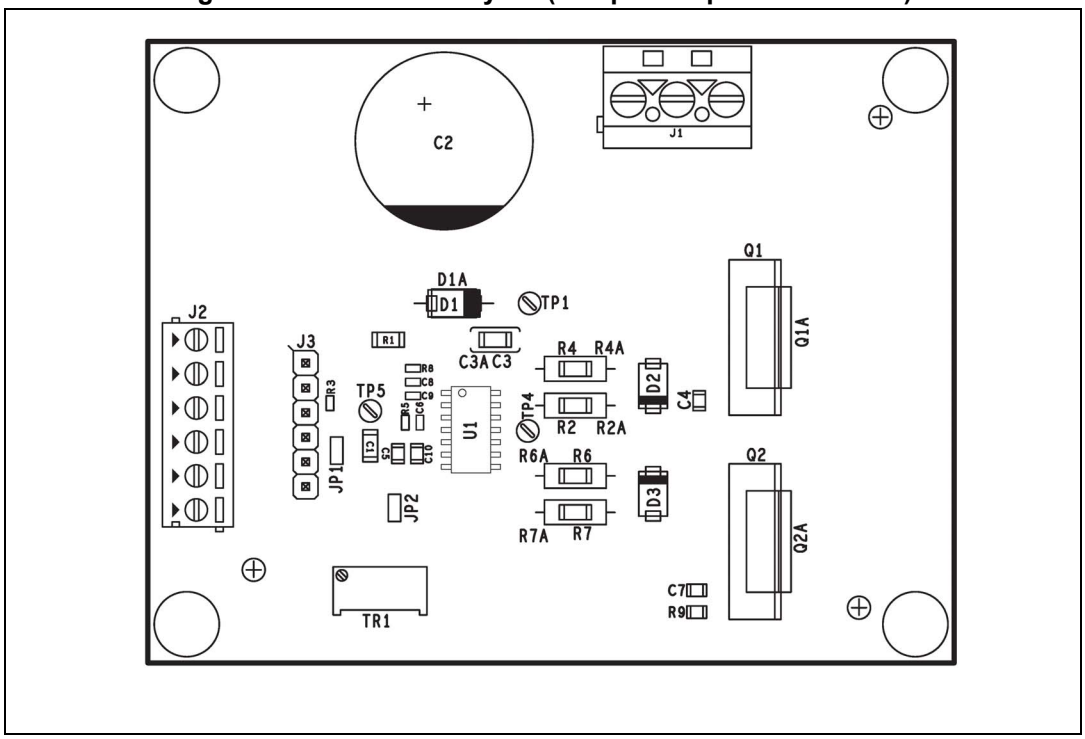


Figure 4. EVAL6494L - layout (component placement view)



4 Revision history

Table 2. Document revision history

Date	Revision	Changes
14-Nov-2017	1	Initial release.

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