

Demonstration board mounting the L6226Q dual full-bridge driver

Data brief

Features

- Operating supply voltage from 8 to 52 V
- 2.8 A output peak current (1.4 A DC)
- $R_{DS(on)}$ 0.73 Ω typ. value @ $T_J = 25\text{ }^\circ\text{C}$
- Operating frequency up to 100 kHz
- Programmable high-side overcurrent detection and protection
- Diagnostic output
- Paralleled operation
- Cross conduction protection
- Thermal shutdown
- Undervoltage lockout
- Integrated fast free wheeling diodes



Description

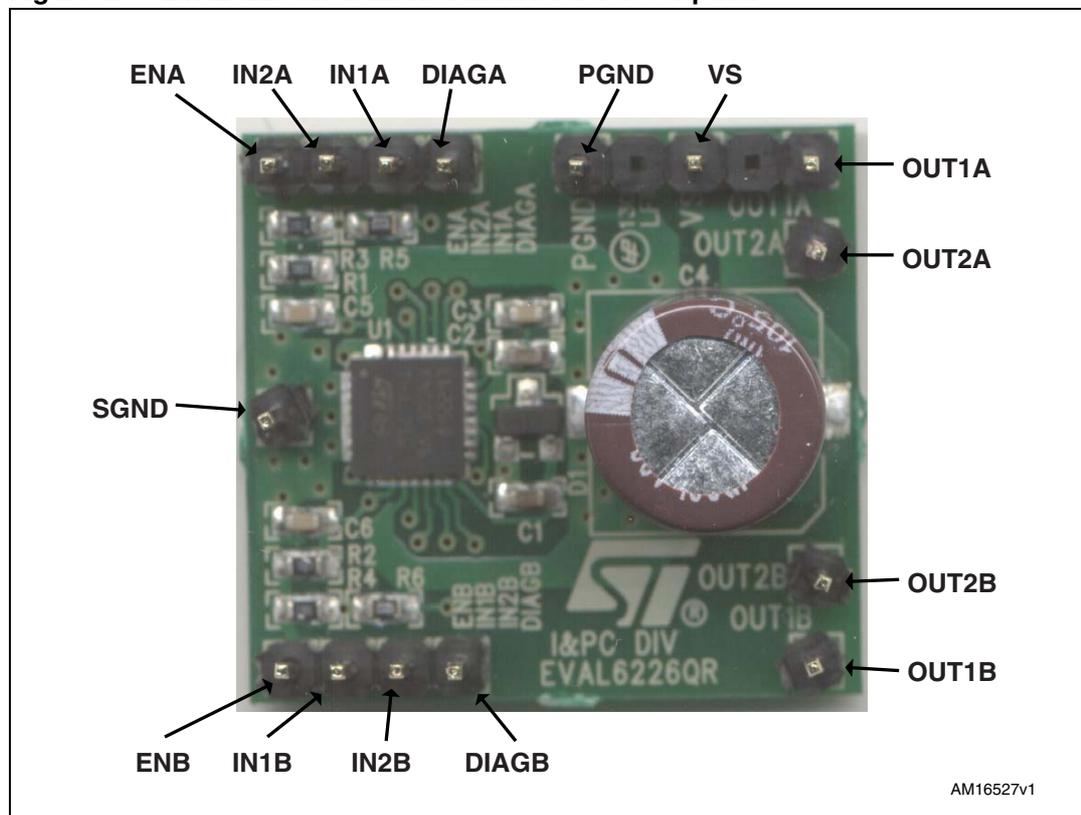
The L6226Q is a DMOS dual full-bridge designed for motor control applications, realized in BCD multipower technology. The L6226Q features thermal shutdown and a non-dissipative overcurrent detection on the high-side power MOSFETs plus a diagnostic output that can be easily used to implement the overcurrent protection.

1 Board description

Table 1. EVAL6226QR electrical specifications (recommended values)

Parameter	Value
Supply voltage range (VS)	8 to 52 Vdc
Output current rating (OUTx)	up to 1.4 A _{r.m.s.}
Switching frequency	up to 100 kHz
Input and enable voltage range	0 to + 5 V
OCD pin voltage range	-0.3 to 10 V
L6226Q thermal resistance junction-to-ambient	42°C/W

Figure 1. EVAL6226QR demonstration board description

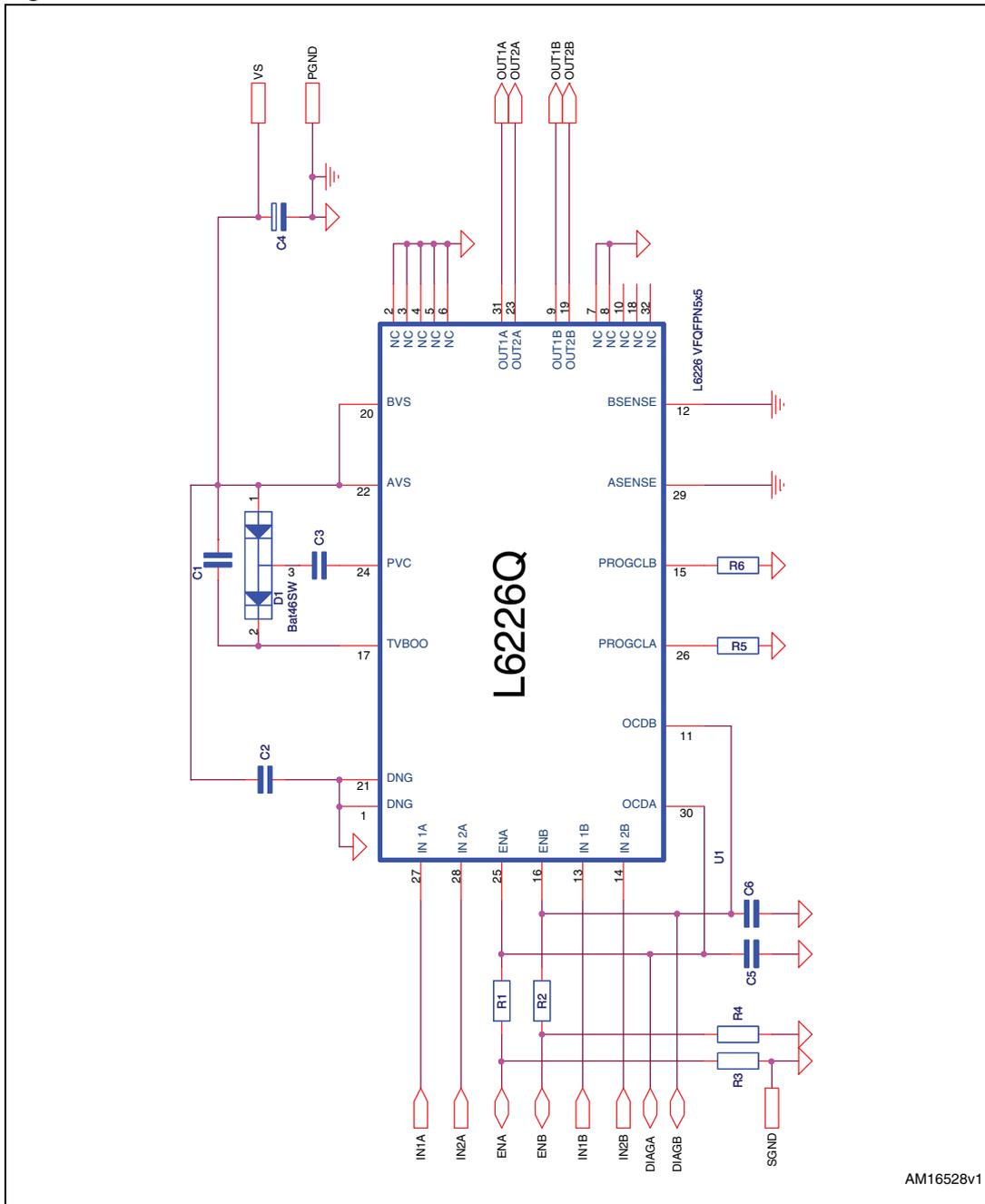


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Table 2. EVAL6226QR pin connections

Name	Type	Function
VS	Power supply	Bridge A and bridge B power supply
PGND	Ground	Power ground terminal
IN1A	Logic input	Bridge A logic input 1
IN2A	Logic Input	Bridge A logic input 2
ENA	Logic input	Bridge A enable (active high). When low, the power DMOSs of bridge A are switched OFF.
IN1B	Logic input	Bridge B logic input 1
IN2B	Logic input	Bridge B logic input 2
ENB	Logic input	Bridge B enable (active high). When low, the power DMOSs of bridge B are switched OFF.
DIAGA	Open drain output	Bridge A overcurrent detection and thermal protection pin. An internal open drain transistor pulls to GND when overcurrent on bridge A is detected or in case of thermal protection.
DIAGB	Open drain output	Bridge B overcurrent detection and thermal protection pin. An internal open drain transistor pulls to GND when overcurrent on bridge B is detected or in case of thermal protection.
SGND	Ground	Signal ground terminal
OUT1A	Power output	Bridge A output 1
OUT2A	Power output	Bridge A output 2
OUT1B	Power output	Bridge B output 1
OUT2B	Power output	Bridge B output 2

Figure 2. EVAL6226QR schematic



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Table 3. EVAL6226QR part list

Part reference	Part value	Part description
C1	220 nF/25 V	Capacitor
C2	220 nF/63 V	Capacitor
C3	10 nF/25 V	Capacitor
C4	100 µF/63 V	Capacitor
C5, C6	5.6 nF	Capacitor
D1	BAT46SW	Diodes
R1, R2, R3, R4	100 kΩ 5% 0.25 W	Resistor
R5, R6	10 kΩ 1% 0.25 W	Resistor
R9, R10	0.4 kΩ 1 W	Resistor
U1	L6226Q	Dual full-bridge in VFQFPN5x5

Figure 3. Component placement

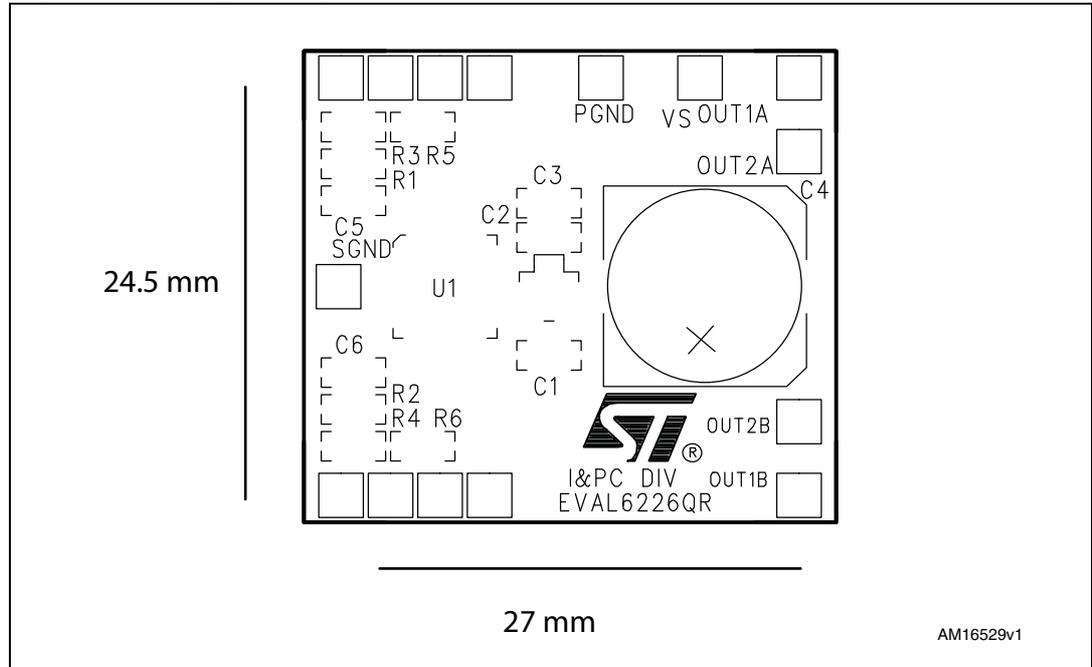


Figure 4. Top layer layout

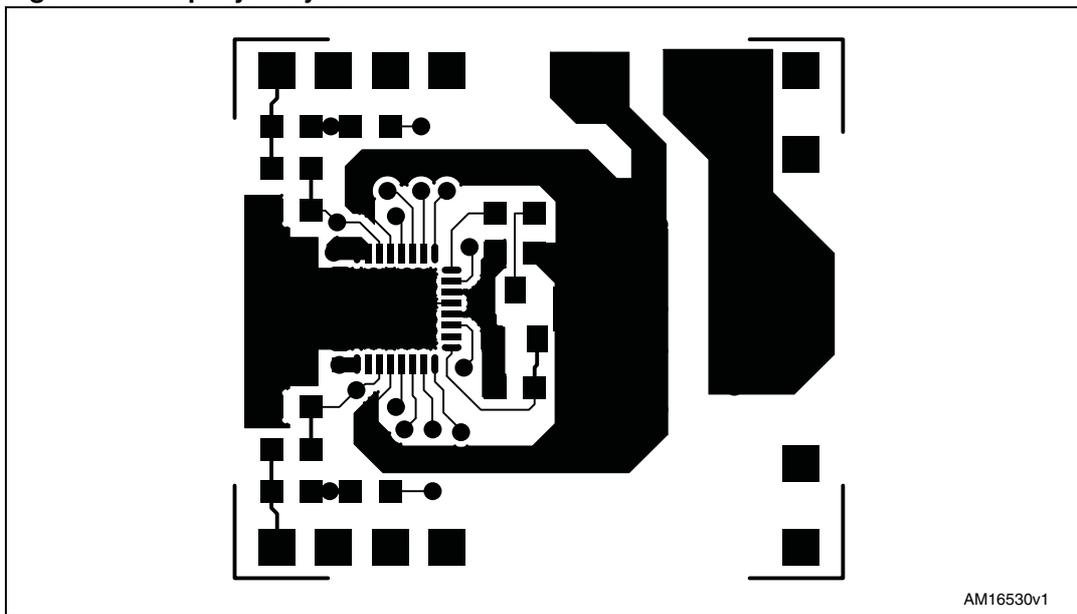
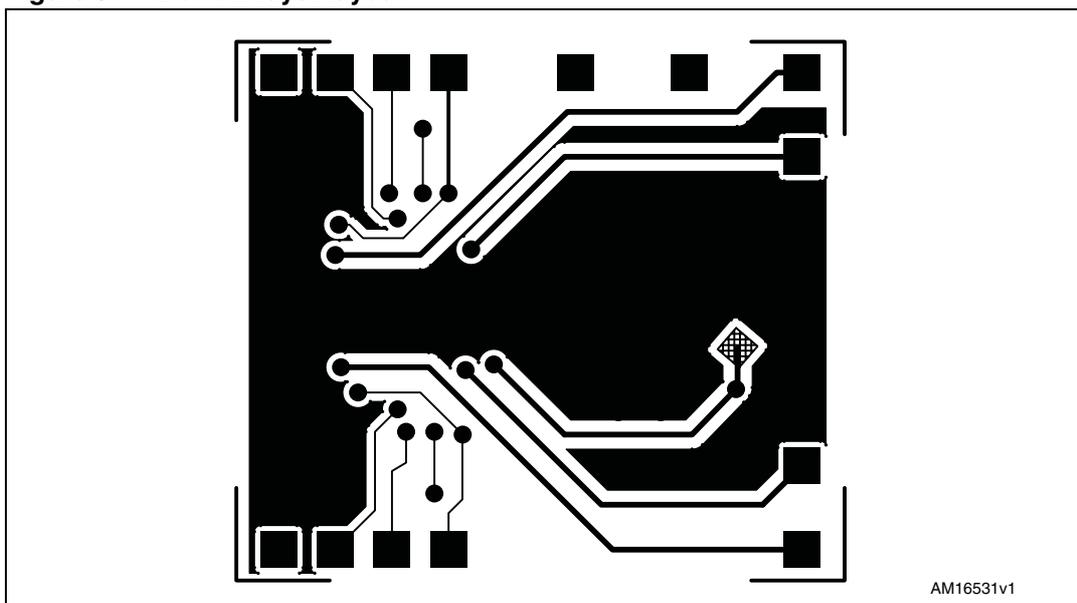


Figure 5. Bottom layer layout



2 Revision history

Table 4. Document revision history

Date	Revision	Changes
11-Jan-2013	1	Initial release.

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