

High-side driver based on the VNI2140J

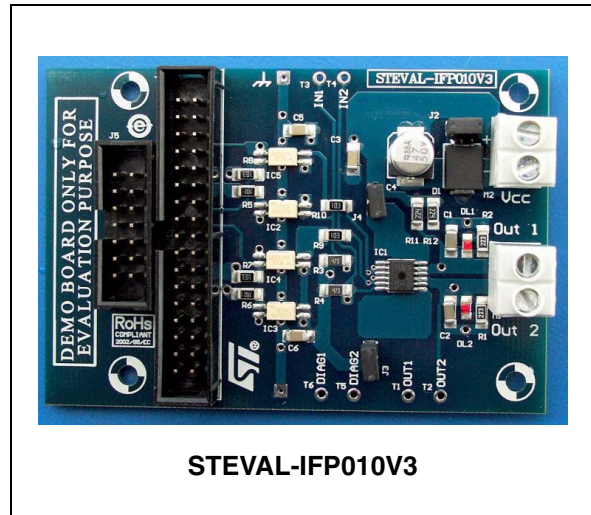
Data brief

Features

- Output current: 1 A per channel
- Shorted-load protection
- Junction overtemperature protection
- Case overtemperature protection for thermal independence of the channels
- Non-simultaneous TCSD (thermal case shutdown) restart for the various channels
- Protection against loss of ground
- Current limitation
- Undervoltage shutdown
- Open load in off-state and short to V_{CC} detection
- Open-drain diagnostic outputs
- 3.3 V CMOS/TTL compatible inputs
- Fast demagnetization of inductive loads
- Conforms to IEC 61131-2 supply voltage: +4 V to +36 V
- RoHS compliant

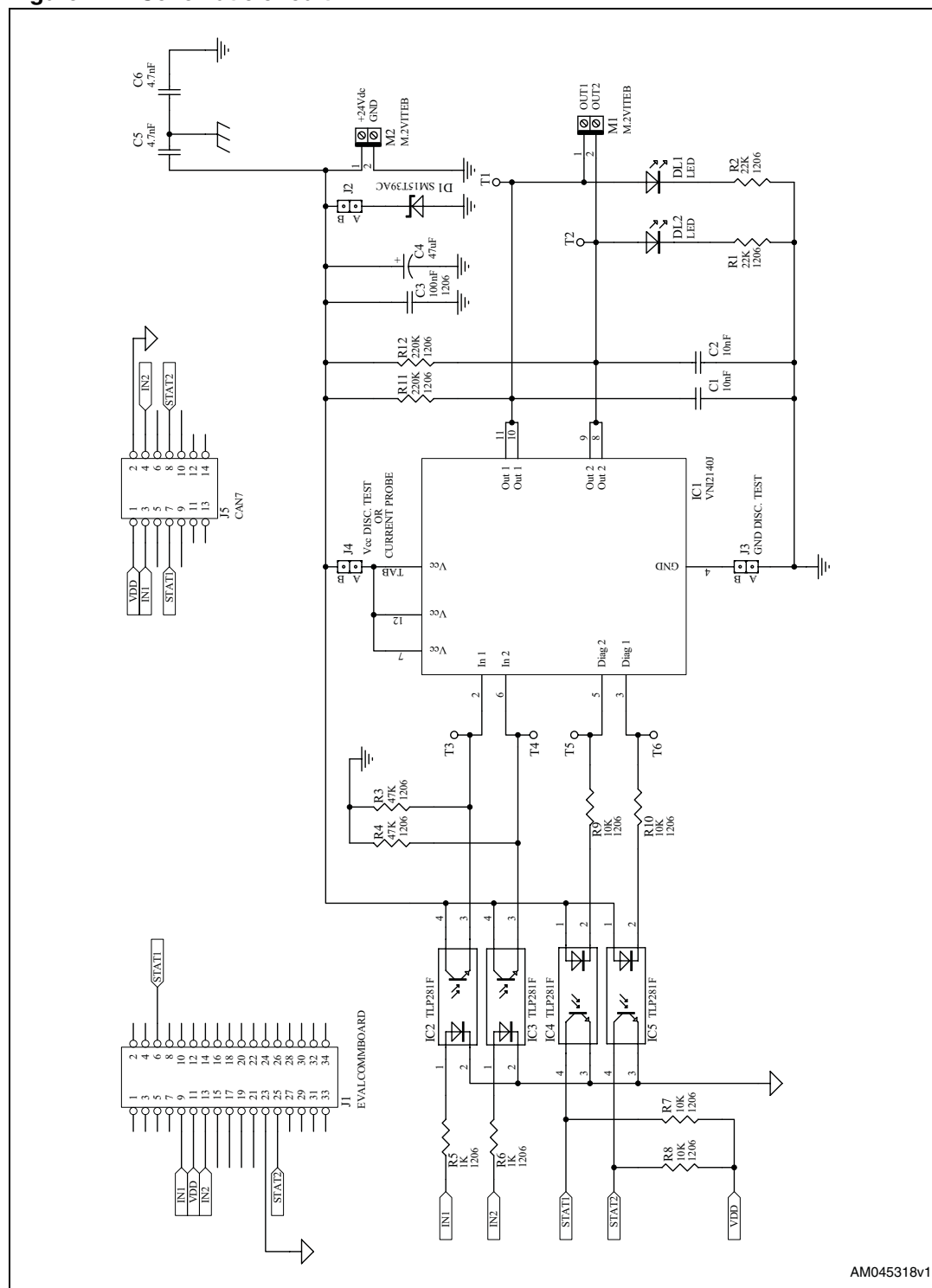
Description

The STEVAL-IFP010V3 demonstration board is based on the VNI2140J, a monolithic device designed using ST's VIPower technology for driving two independent resistive or inductive loads with one side connected to ground. Active current limitation prevents a drop in system power supply if the load is shorted. A built-in thermal shutdown protects the chip from overtemperature and short-circuit conditions. During an overload condition, the channel turns off and back on automatically in order to maintain the junction temperature between TTSD and TR. If this condition causes the case temperature to reach TCSD, the overloaded channel is turned off and will restart only when the case temperature has decreased down to TCR.



If more than one channel is in overload, the TCSD restart will not be simultaneous in order to prevent high peak current from the supply. Non-overloaded channels continue to operate normally. The open-drain diagnostic outputs indicate overtemperature conditions and open load in the off-state.

Figure 1. Schematic circuit



2 Revision history

Table 1. Document revision history

Date	Revision	Changes
22-Dec-2011	1	Initial release.

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