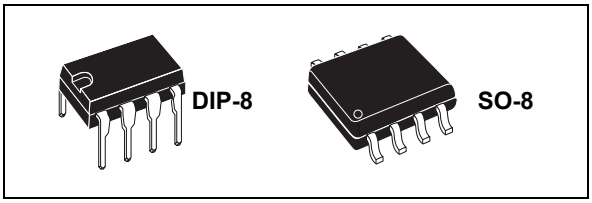
L6388E

High voltage high and low-side driver

Datasheet - production data



Features

- High voltage rail up to 600 V
- dV/dt immunity ± 50 V/nsec in full temperature range
- Driver current capability:
  - 400 mA source
  - 650 mA sink
- Switching times 70/40 nsec rise/fall with 1 nF load
- 3.3 V, 5 V, 15 V CMOS/TTL input comparators with hysteresis and pull-down
- Internal bootstrap diode
- Outputs in phase with inputs
- Deadtime and interlocking function

Applications

- Home appliances
- Industrial applications and drives
- Motor drivers
  - DC, AC, PMDC and PMAC motors
- Induction heating
- HVAC
- Factory automation
- Lighting applications
- Power supply systems

Description

The L6388E is a high voltage gate driver, manufactured with the BCD ™ “offline” technology, and able to drive a half-bridge of power MOSFET/IGBT devices. The high-side (floating) section is enabled to work with voltage rail up to 600 V. Both device outputs can sink and source 650 mA and 400 mA respectively and cannot be simultaneously driven high thanks to an integrated interlocking function. Further prevention from outputs cross conduction is guaranteed by the deadtime function.

The L6388E device has two input and two output pins, and guarantees the outputs switch in phase with inputs. The logic inputs are CMOS/TTL compatible (3.3 V, 5 V and 15 V) to ease the interfacing with controlling devices.

The bootstrap diode is integrated in the driver allowing a more compact and reliable solution.

The L6388E device features the UVLO protection on both supply voltages (V_{CC} and V_{BOOT}) ensuring greater protection against voltage drops on the supply lines.

The device is available in a DIP-8 tube and SO-8 tube, and tape and reel packaging options.

3 Pin connection

Figure 2.Pin connection (top view)

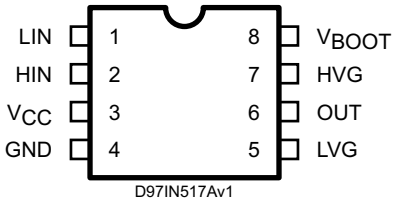


Table 4. Pin description

No.	Pin	Type	Function
1	LIN	I	Low-side driver logic input
2	HIN	I	High-side driver logic input
3	V_{CC}	P	Low-voltage power supply
4	GND	P	Ground
5	LVG(1)	O	Low-side driver output
6	OUT	P	High-side driver floating reference
7	HVG(1)	O	High-side driver output
8	V_{BOOT}	P	Bootstrap supply voltage

1. The circuit guarantees 0.3 V maximum on the pin (at I_{sink} = 10 mA). This allows the omission of the “bleeder” resistor connected between the gate and the source of the external MOSFET normally used to hold the pin low.