A - XX l l /

36 8

P

NSD3608 is a highly integrated device which includes eight half bridge (HB1~HB8) gate drivers and two current sense amplifiers.

Gate drivers provide advanced functions like slew rate control, switching timing feedback and VGS handshaking. Current sense amplifiers support high common mode voltage input. A 16-bit SPI is used to configure and control device also read out status registers for diagnostic.

Device offers an array of diagnostic features to ensure robust operation. These features include supply voltage monitor, charge pump voltage monitor, VDS overvoltage monitor, VGS voltage monitor and thermal monitor (warning and shutdown protection).

l

- AEC-Q100 Grade1 qualified
- 8 half bridge gate drivers
  - 4.9V to 37V operating range
  - Half bridge, H bridge and SPI control mode
  - 4 PWM inputs with output mapping
  - Configurable freewheeling mode during PWM
- Configurable charge/discharge current profile driver (CCPD) for improving EMC performance
  - Three phases for MOSFET turn on/off (pre charge/discharge, charge/discharge, post charge/discharge)
  - 0.25mA to 64mA source/sink current for different phases
  - Turn on/off delay and rise/fall timing feedback
- Integrated 2-stage charge-pump with spread spectrum
  - Support 0% to 100% PWM operation
  - Reverse protection MOSFET driver output
- 2 wide common mode current sense amplifier (CSA)
  - Support high side, low side and inline topology
  - Configurable gain (10/20/40/80V/V)
  - Configurable over current threshold, filter time and fault reaction
- Low current consumption in sleep mode
- 16-bit, max 10MHz SPI interface
- Protection and diagnostic
  - Supply and regulator voltage monitor (DVDD UV, PVDD OV, PVDD UV and VCP UV)
  - Gate driver monitor (VGS Fault and VDS OV)
  - Support off state diagnostic
  - Thermal warning and shutdown
  - Window watchdog timer
  - Support brake function (LS5~LS8) in sleep mode and normal mode
  - Dedicated driver disable pin (DRVOFF) or Fault interrupt pin (nFLT)
- RoHS & REACH Compliance

A l X

- Automotive brushed DC motor applications (Seat, Power lift gate…)
- Automotive body control functions (Door locks, Latch…)

X X

P b	P k	/
NSD3608-Q1QAJR	VQFN56	8.0mm × 8.0mm

For full version datasheet, please contact : pad_marketing@novosns.com