Product Brief

New NovalithIC™ BTN8982TA

Integrated High Current Half-Bridge Motor Drivers

The BTN8982TA is an integrated high current half bridge for motor drive applications. It is part of the NovalithIC™ family containing one p-channel high-side MOSFET and one n-channel low-side MOSFET with an integrated driver IC in one package.
Due to the p-channel high-side switch the need for a charge pump is eliminated thus minimizing EMI.

Interfacing to a microcontroller is made easy by the integrated driver IC which features logic level inputs, diagnosis with current sense, slew rate adjustment, dead time generation and protection against overtemperature, undervoltage, overcurrent and short circuit.

The BTN8982TA provides a cost optimized solution for protected high current PWM motor drives with very low board space consumption.

Key Benefits

- Low quiescent current for an extended battery life
- Switched mode current limitation for reduced power dissipation in overcurrent condition
- Integrated undervoltage, overtemperature, overcurrent protection and analog current sense to minimize the external components required
- Option for on-board kilis offset calibration
- Reduced power losses vs. BTN79x0B
  - switching losses typically up to 50%
  - conducting losses up to ~ 50% (compared to BTN796xB/BTN797xB)
- Enhanced operating voltage range 5.5–40V
- Pin compatible to existing NovalithIC™ family
- Enhanced switching speed with adjustable slew rate for optimized EMI and reduced switching losses

Performance BTN8982TA

Key Features

- Path resistance: max. 20.4mΩ @ 150°C (typ. 10.0mΩ @ 25°C)
  - High side: max. 10.5mΩ @ 150°C (typ. 5.3mΩ @ 25°C)
  - Low side: max. 9.9mΩ @ 150°C (typ. 4.7mΩ @ 25°C)
- Capable for high PWM frequency combined with active freewheeling
- Extended operating voltage range down to 5.5V and up to 40V
- Low quiescent current of typ. 7µA @ 25°C
- Current limitation level of 55A min.
- Status flag diagnosis with current sense capability
- Overtemperature shut down with latch behavior and undervoltage shut down
- Driver circuit with logic level inputs
- Green product (RoHS compliant)
- AEC qualified

RoHS

AEC Qualified

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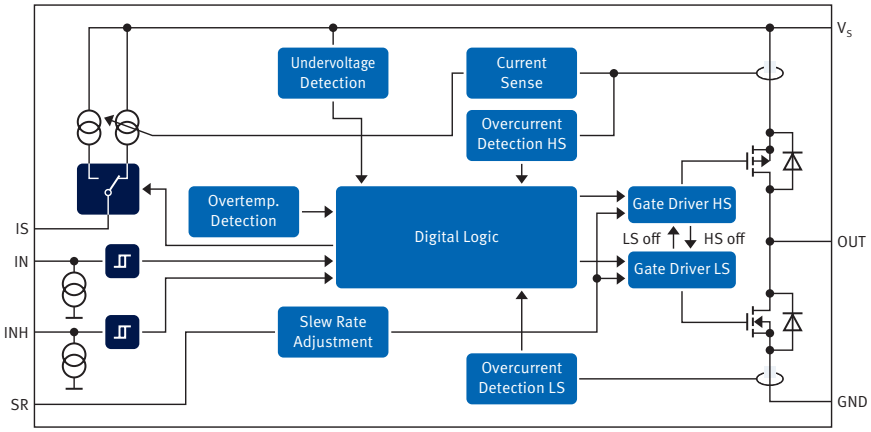
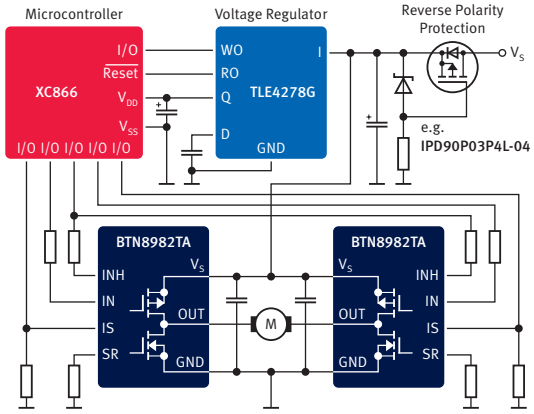
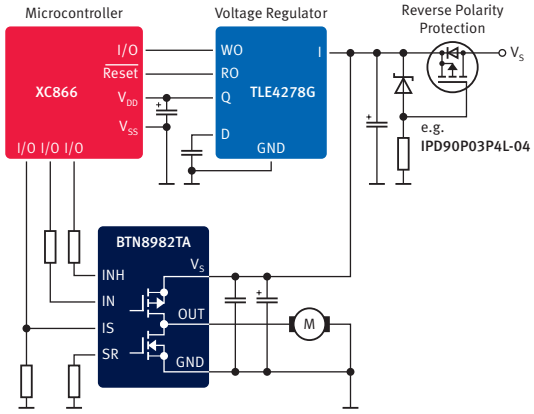
Block Diagram



Applications Diagram





Applications: High current DC- or brushless DC (BLDC) motor drives for use in applications like:

- Power windows
- Sun roof
- Central door lock
- Seat positioning
- Front and rear wiper
- 4 wheel transfer case
- Electronically Controlled Manual Transmission (ECMT)
- Cooling fan / HVAC blower
- Seat belt pretensioner
- Electric parking brake
- Sliding door / door soft close
- Power lift gate
- Fuel pump / water pump
- Industrial motor drives (automation, home appliance, robotics, medical)

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