

## Product brief

# MOTIX™ Bridge BTN8962TA (NovalithIC™)

## Integrated high current half-bridge motor drivers

The MOTIX™ BTN8962TA 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 MOTIX™ BTN8962TA provides a cost optimized solution for protected high current PWM motor drives with very low board space consumption.

### Key benefits

- › **Easy to use and fast design-in** – driver, FETs, load current sensing and diagnostic and protection functions – all integrated in one package, promoting fast and lean design-in activities
- › **Full flexibility** – the BTN8962TA supports BDC motors in half- or H-bridge configuration as well as BLDC motors
- › **Cost optimized through system level savings** – compared to a discrete solution, the BTN8962TA saves PCB-area and pick and place costs. Furthermore, it requires less passives due to its integrated diagnosis and protection functions.
- › **Functional safety** – the BTN8962TA includes an integrated under voltage, MOSFETs' overtemperature- and overcurrent protection, measured directly in the MOSFETs. In an H-bridge configuration, the BTN8962TA furthermore provides a redundancy case for functional safety.
- › **Configuration flexibility** – settable switching speed for optimized EMI vs. power dissipation

### Key features

- › Path resistance: max. 30.3 mΩ at 150°C (typ. 14.2 mΩ at 25°C)
  - High side: max. 13.4 mΩ at 150°C (typ. 6.7 mΩ at 25°C)
  - Low side: max. 16.9 mΩ at 150°C (typ. 7.5 mΩ at 25°C)
- › Extended operating voltage range down to 5.5 V (high-side switch) and up to 40 V
- › Current limitation level of 30 A 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

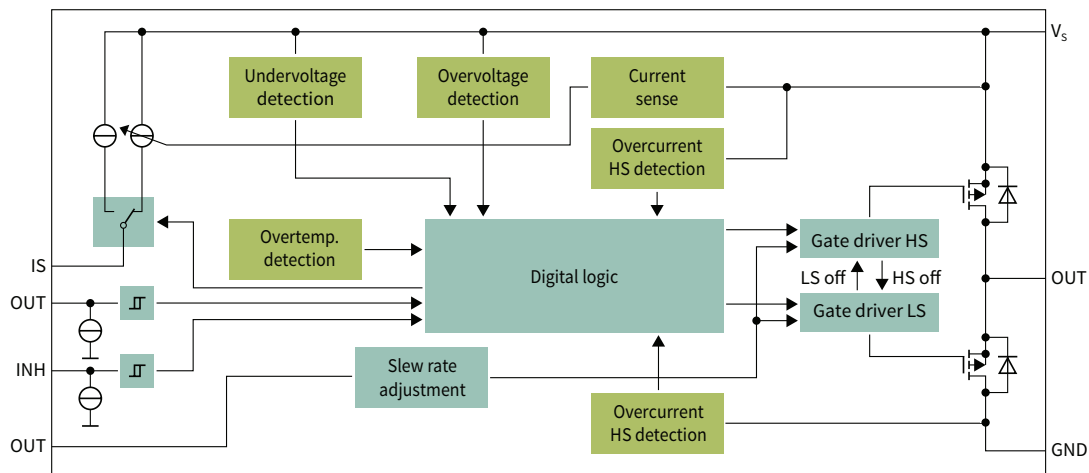
### Applications

- › 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
- › Electric parking brake
- › Sliding door/door soft close
- › Power lift gate
- › Fuel pump/water pump
- › Industrial motor drives (automation, home appliance, robotics, medical)

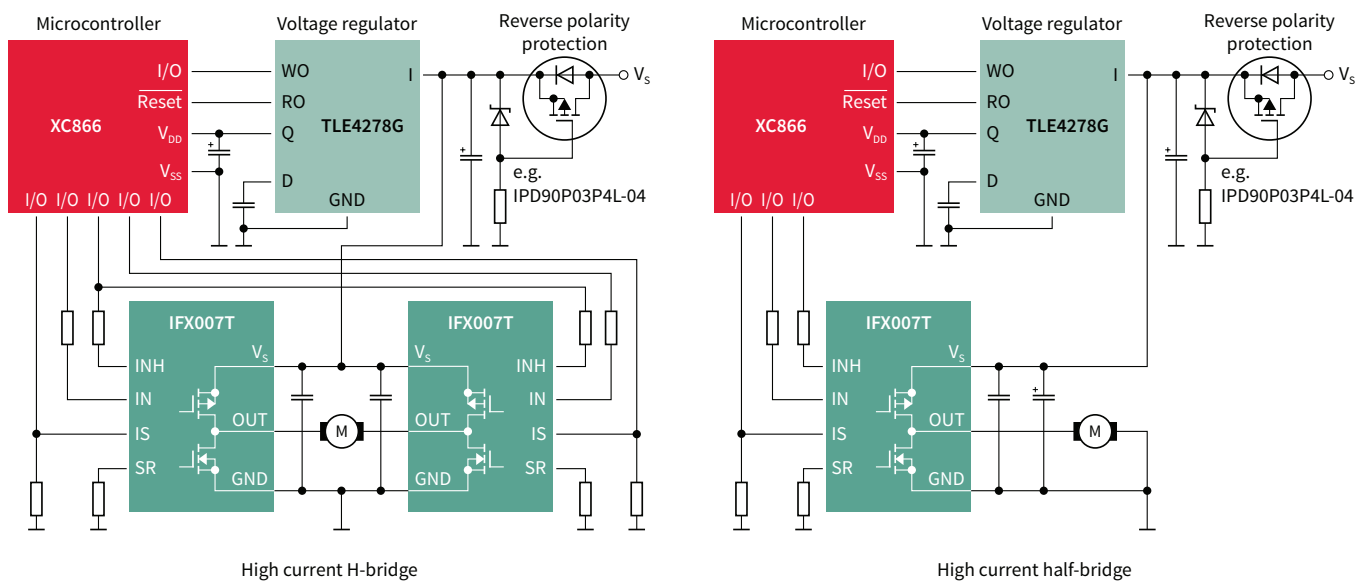
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Industrial & multipurpose half-bridge for motor drive applications

## Block diagram



## Application diagram



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