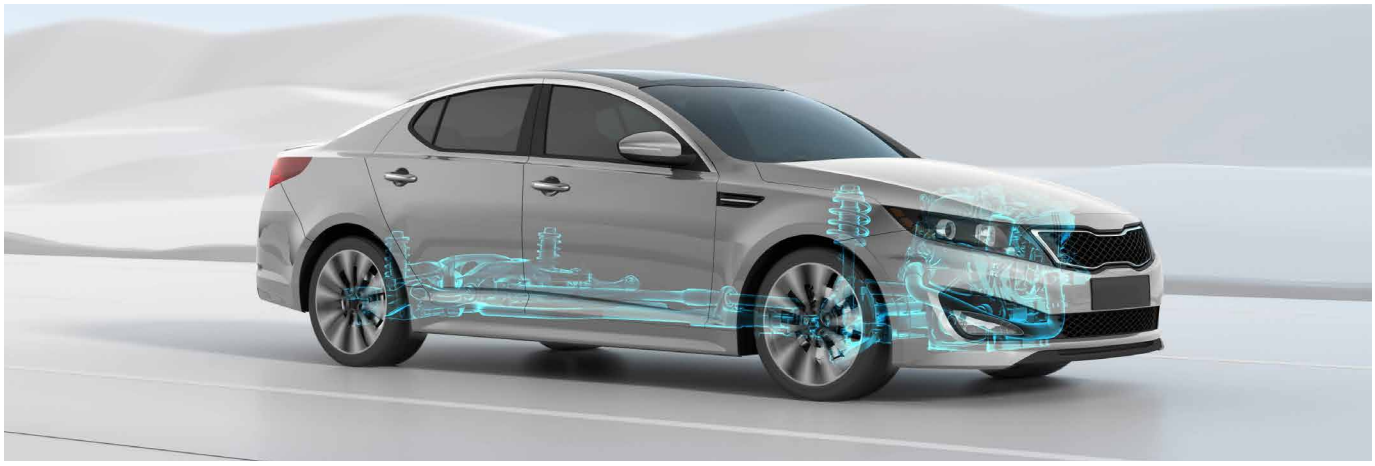
SECURE CONNECTIONS FOR A SMARTER WORLD

**FACT SHEET**
GD3162

# GD3162: ADVANCED HIGH VOLTAGE ISOLATED GATE DRIVER WITH DYNAMIC GATE STRENGTH CONTROL



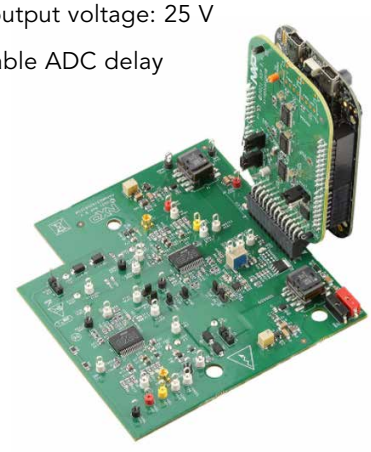
The GD3162 is an advanced, galvanically isolated, single-channel gate driver designed to drive the latest SiC and IGBT modules for xEV traction inverters.

This product offers an adjustable dynamic gate strength drive via a programmable interface over SPI. In addition, advanced programmable protection features are autonomously managed as faults and the status of the power device and gate driver are reported via the interrupt pins.

The GD3162 is designed for high functional safety integrity level systems (ASIL C/D) and meets the stringent requirements of automotive applications. It is fully AEC-Q100 Grade 1 qualified.

## OPERATION

- Integrated boost capability for increased drive strength
- Max VCC output voltage: 25 V
- Programmable ADC delay



## PROTECTION

- Integrated HV temperature sensing (TSENSE) for NTC thermistor or diode sensors with programmable offset and gain
- Fast VCE DeSat detection and reaction time: < 1 µs (SiC)
- Improved PWM deadtime range for reduced switching losses (SiC)
- Programmable two-level turn off (2 LTO) and soft shutdown (SSD)
- Provides either MCU controlled or safety logic controlled gate drive to actively discharge the DC link capacitor

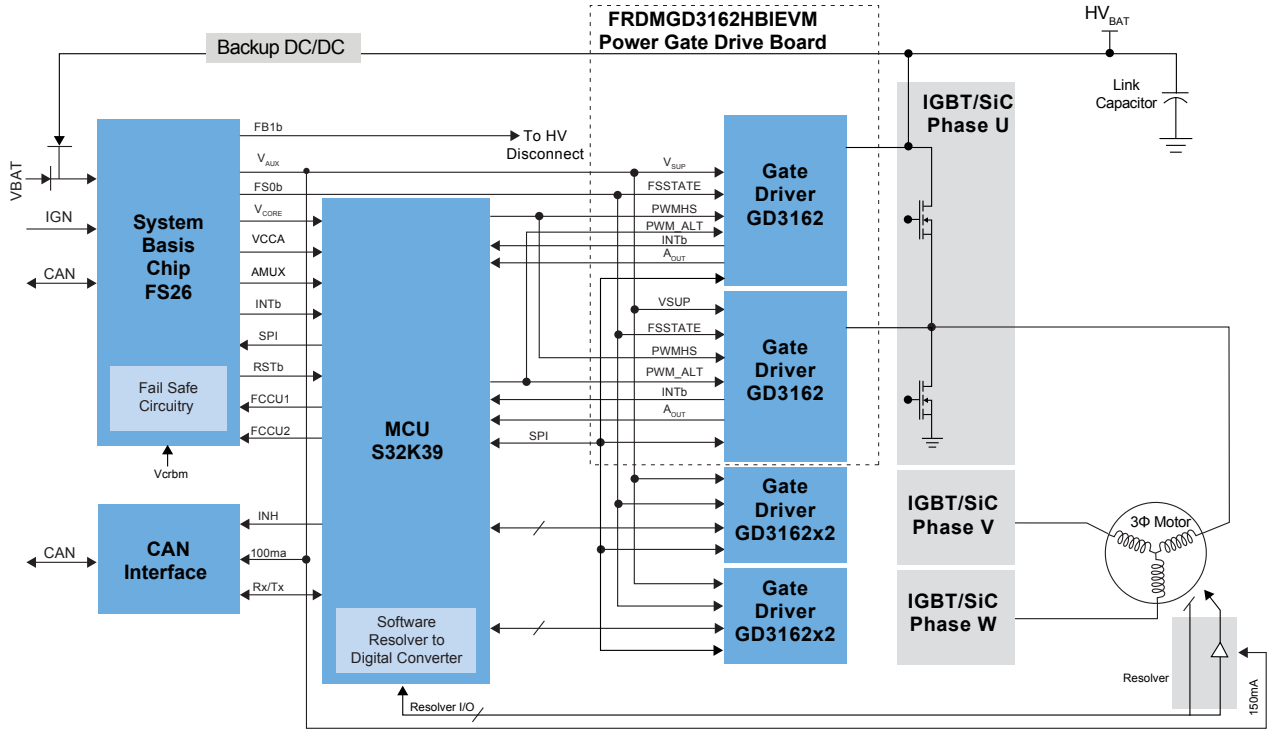
## FUNCTIONAL SAFETY

- Additional programmable fault pin (INTA)
- Integrated HV fault management (FSISO)
- Programmable VCE output monitoring

## INSULATION/ISOLATION

- Minimum common mode transient immunity (CMTI) > 100 V/ns
- 5,000 Vrms galvanic isolation per UL1577 (planned)

## GD3162 BLOCK DIAGRAM

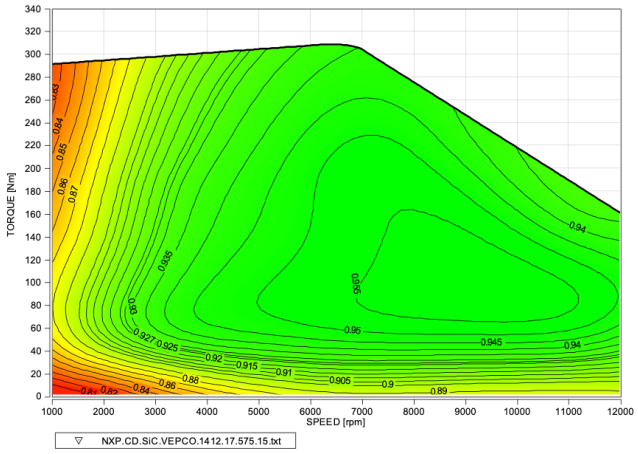



## EVALUATION TOOLS

FRDMGD3162HBIEVM

FRDMGD3162HBIEVM is a half-bridge evaluation kit populated with two GD3162 single channel IGBT/SiC MOSFET gate drive devices. The evaluation kit is designed to connect to an Hybrid Pack Drive power module for half-bridge evaluations and applications development.

## SPEED VS. TORQUE PLOT USING SIC BASED NXP TRACTION INVERTER WITH VEPCO MOTOR




The NXP Inverter system was shown to produce a peak power of 220KW, and a max system efficiency of up to 96%.

**www.nxp.com/gd3162**



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