

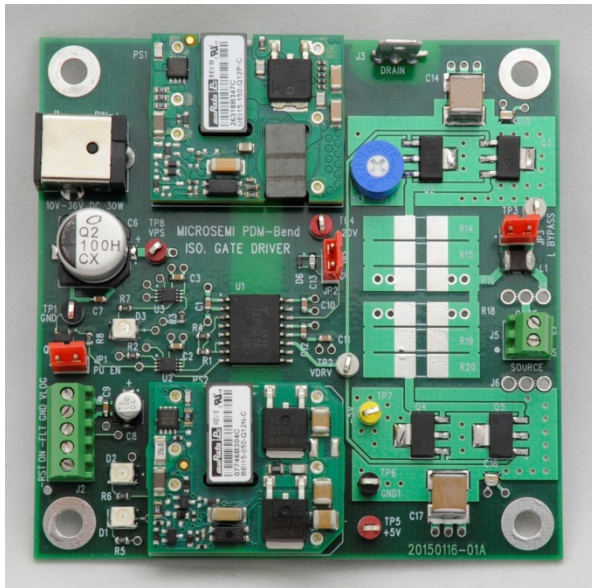
# SiC MOSFET Module driver

## Objective

- Simplify customer evaluation of SiC MOSFET modules
- Allow customer experimentation to minimize cost and complexity of final application gate driver
- Provide to the customer the full design of a SiC MOSFET gate driver evaluation board with schematic, Bill of material and gate driver PCB layout
- SiC Driver evaluation boards available in summer 2015

# SiC MOSFET Module driver

## Overview



- 3" x 3" (76.2mm x 76.2mm)
- Fully isolated
- Stackable to support multi-MOSFET modules
- User selectable input control
  - Logic: TTL, CMOS 3.3V, CMOS 5.0V
  - Differential: RS422/RS485
  - Direct connection to Opto-isolator LED
- Single 24VDC power supply
- Short circuit detection capable
  - Soft MOSFET turn-off
- Gate drive buffer amplifier can be enabled or disabled
- Separate turn-on and turn-off gate resistors

# SiC MOSFET Module driver

## Basic specifications

- Uses Toshiba TLP5214 isolated gate driver IC
- Fully isolated to support 1700V SiC MOSFET modules
- Common Mode Transient Immunity (CMTI) > 35kV/μs
- Peak gate current:
  - 30A when buffer amplifier is enabled
  - 4A when buffer amplifier is disabled
- -5V to +20V gate drive  
(+20V adjustable  $\pm 15\%$ )
- Capable of driving 2000nC modules > 400kHz (>20W)

# SiC MOSFET Module driver

## Schematic

