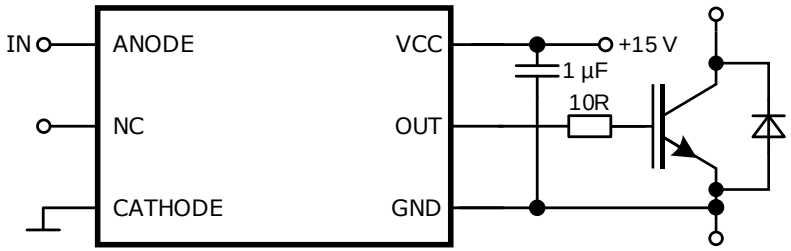
EiceDRIVER™ 1ED301xMC12I
Opto-Emulator

Key features & Timeline

- **Drop-in replacement of 6-pin Opto coupler**
- **6.5 A** typical output current
- Galvanic functional isolation voltages up to **2300 V**
- **35 V absolute maximum** output supply rating
- **40 ns** prop delay; **< +/- 10 ns** propagation delay matching
- **DSO-6** package with 8 mm creepage distance
- UL 1577 V_{ISO}**=5.7 kV(rms)** and IEC 60747-17 certified V_{IORM}**=1767 V**
- UVLO MOSFET / IGBT / SiC
- High CMTI >300 kV/µs

Released; EVAL-1ED3012MC12I-SIC Available

Sample schematic & Variants



Part Number	UVLO	Target Switch
1ED3010MC12I	8.5 V / 9.3 V	Si MOSFET
1ED3011MC12I	11.0 V / 12.0 V	IGBT
1ED3012MC12I	12.5 V / 13.6 V	SiC MOSFET

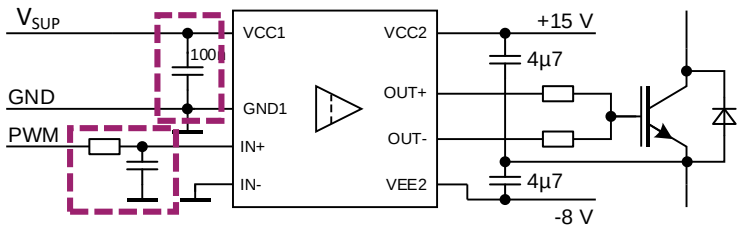
Typical Applications

Value proposition

- **Drop-in replacement for Opto coupler, with superior FiT rate and lifetime**
- **SiC ready: fast prop delay; high current; SiC UVLO**
- **Best in class robustness:**

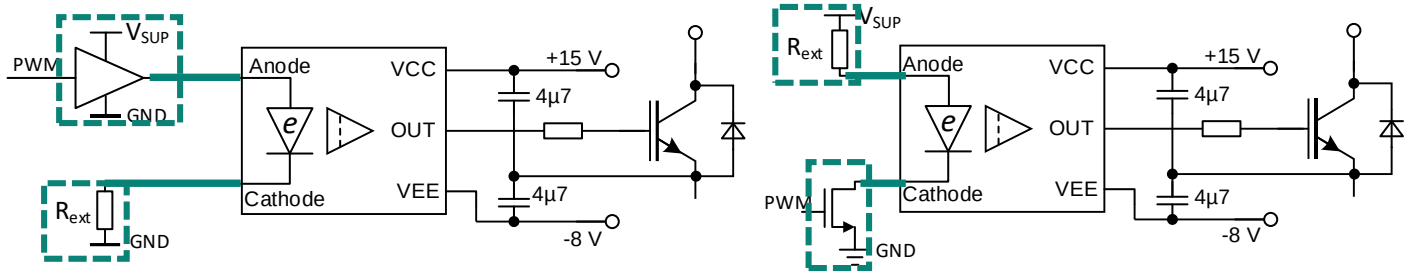
EiceDRIVER™ X3 Lite vs a logic input isolated GD

Logic input isolated IC



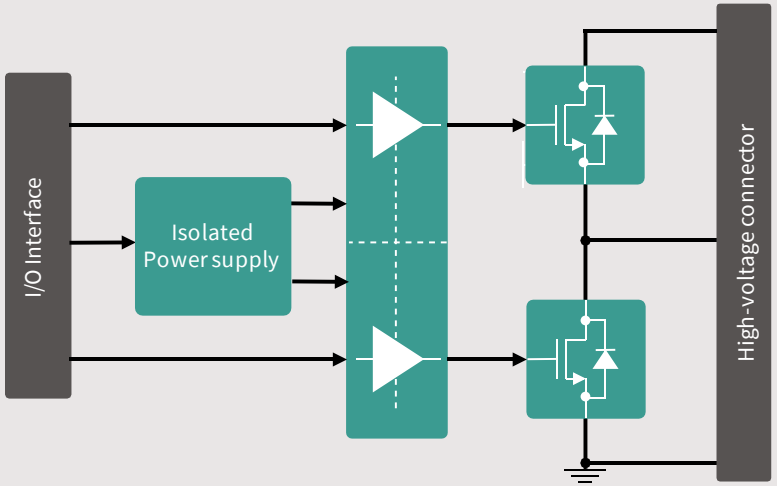
- A minimum of three traces is necessary for the input side (V_{SUP}, GND and PWM)
- A decoupling capacitor is needed from VCC1 to GND1, close to the pins
- An input filter is necessary at the PWM input, close to the pin

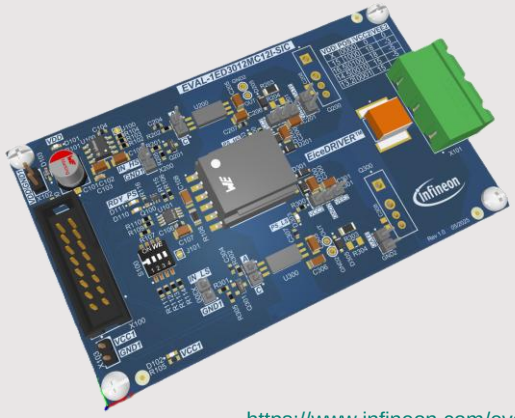
EiceDRIVER™ X3 Lite



- Only two traces necessary towards the input side of the driver
- Driven simply:
  - Either with a buffer and external resistor to limit input current
  - Or with a MOS and external resistor to limit the current
- Input current in the order of mA is necessary to drive the output in a high state → low ohmic behavior of the input means higher robustness to noise:
  - Any external input filter is rendered obsolete
  - Traces towards the input side of the driver can be longer with no need of any decoupling filters.

EiceDRIVER™ EVAL-1ED3012MC12I-SiC





Available NOW

https://www.infineon.com/evaluation-board/EVAL-1ED3012MC12I-SIC

Motivation

- Enables simplified **evaluation** of the **EiceDRIVER™ 1ED3012MC12I driver IC**
- Enables easy evaluation of Infineon switches in TO247-4 package

Product description

- **Board setup in a half-bridge configuration for easy double pulse test**
- **2x 1ED3012MC12I** isolated gate drivers in a wide body LDSO-8 package
- **2x IMZC120R017M2H CoolSiC™** 1200V SiC Trench MOSFETs in a TO247-4 package
- Built-in configurable isolated power supply with transformer driver IC **EiceDRIVER™ POWER 2EP130R**
- Part of **Infineon Modular Evaluation Platform** https://www.infineon.com/mep