

MP6605C/D/E

60V, 1.5A, 4-Channel Low-Side Driver with I²C/Parallel/SPI Interface

MP6605C: I²C Interface

MP6605D: Parallel Interface

MP6605E: SPI Interface

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Singel 3 | B-2550 Kontich | Belgium | Tel. +32 (0)3 458 30 33
info@alcom.be | www.alcom.be

Rivium 1e straat 52 | 2909 LE Capelle aan den IJssel | The Netherlands
Tel. +31 (0)10 288 25 00 | info@alcom.nl | www.alcom.nl



MP6605C/D/E – Target Applications

- Pachinko Machines
- Massage Chair Air Bags
- Smart Toilet Seats
- Unipolar Stepper Motors



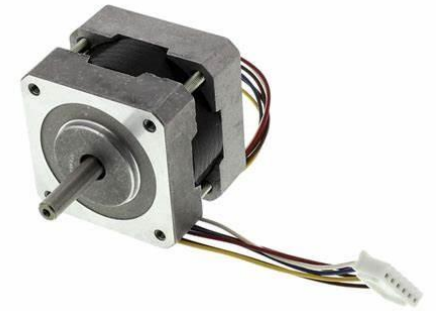
Pachinko Machines



Massage Chair Air Bags



Smart Toilet Seats



Unipolar Stepper Motors

Why Use These Part?

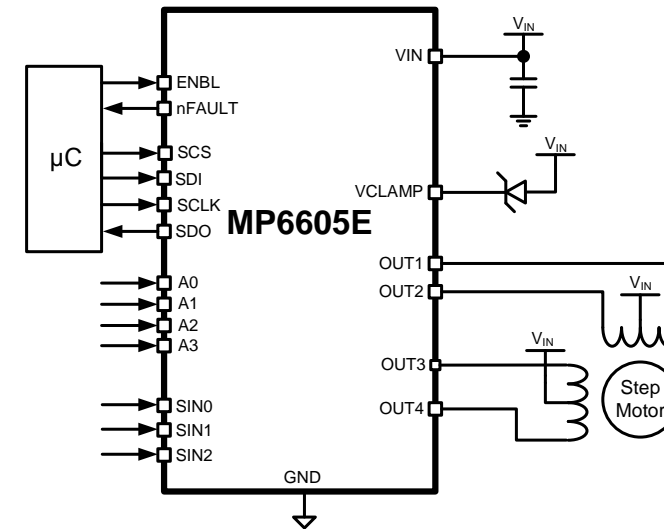
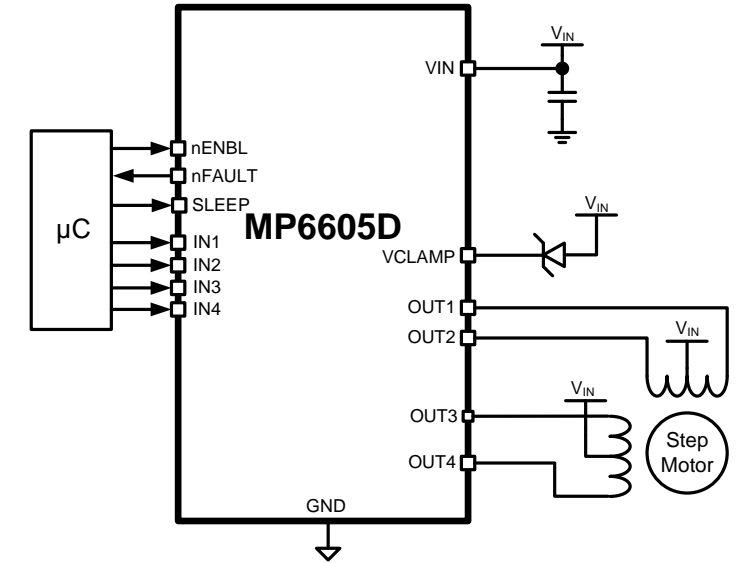
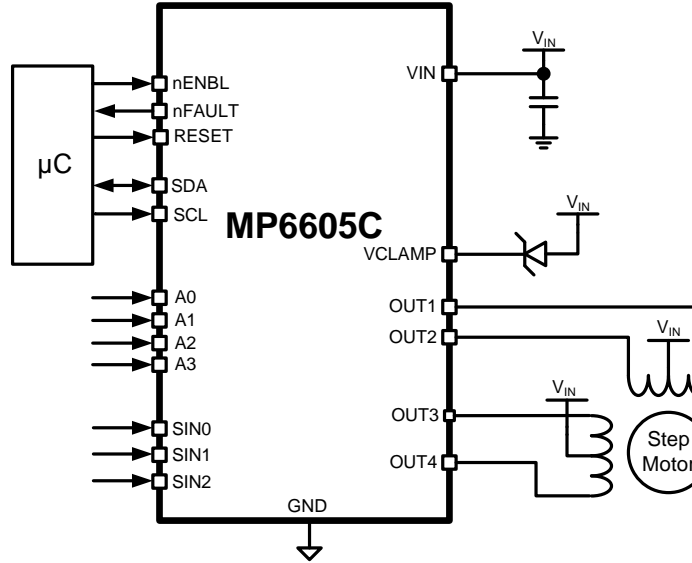
It's Simple and Easy!

- Different control interfaces can flexibly meet the applications of the 4-Channel Low-Side Driver
- 350mΩ Low $R_{DS(ON)}$, 1.5A Max I_{OUT} per LS-FET
- Rich Protection Functions: OCP, UVLO, OTS, and Fault Indication Output
- Small QFN-24 (4mmx4mm) Package

MP6605C/D/E – 4.5V to 60V, 1.5A, Quad Low-Side Drivers

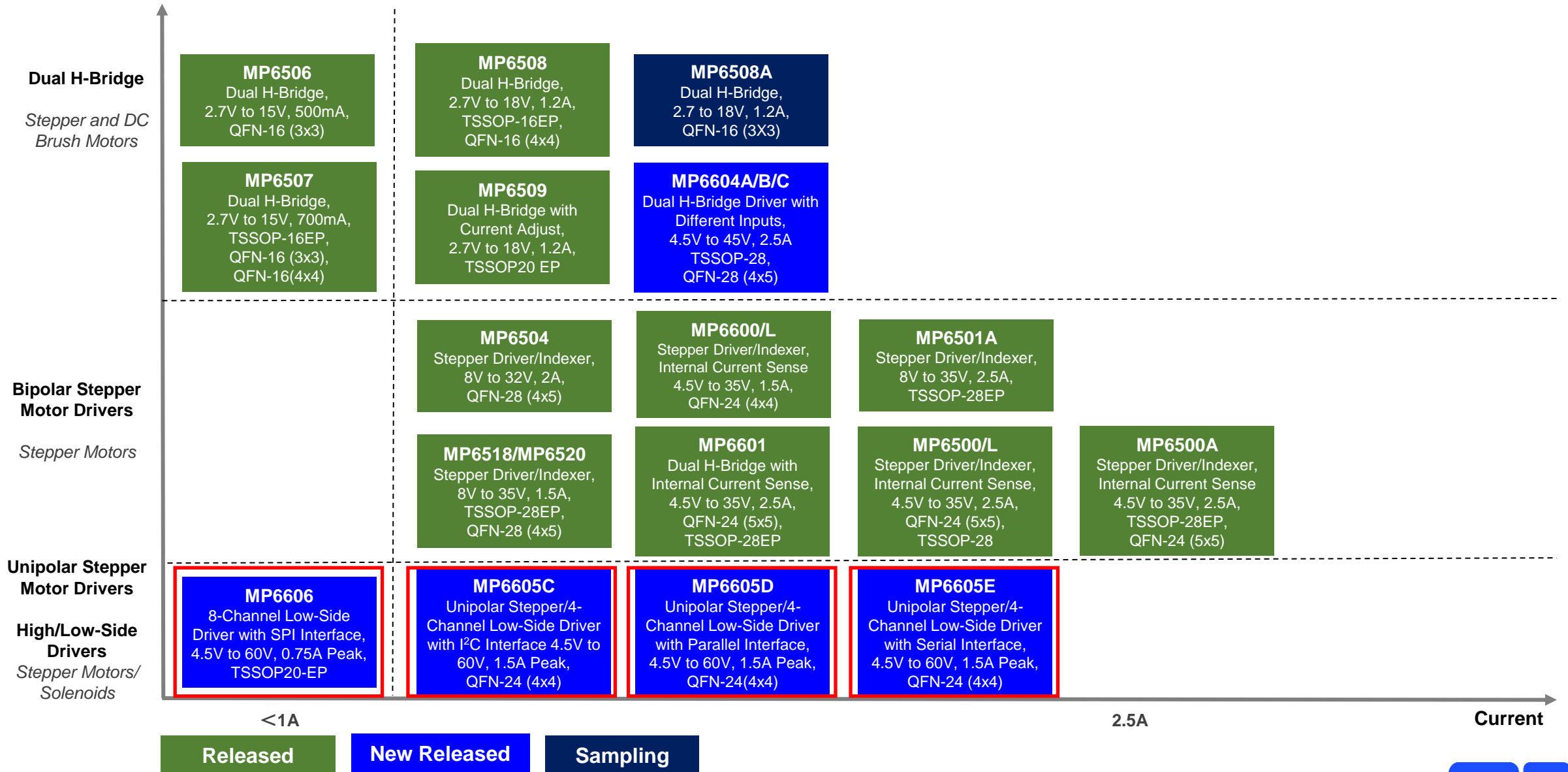
Features

- Wide 4.5V to 60V V_{IN} Range
- Four LS-FETs and clamp diodes
- 350m Ω LS-FET On Resistance
- 1.5A Max I_{OUT} with 1 Channel On or 700mA Max I_{OUT} with 4 Channels On
- Simple Logic Interface:
 - MP6605C: I²C interface
 - MP6605D: PWM input
 - MP6605E: Serial Interface
- OCP, UVLO, OTS, and Fault Indication Output
- 3.3V and 5V Compatible Logic Supply

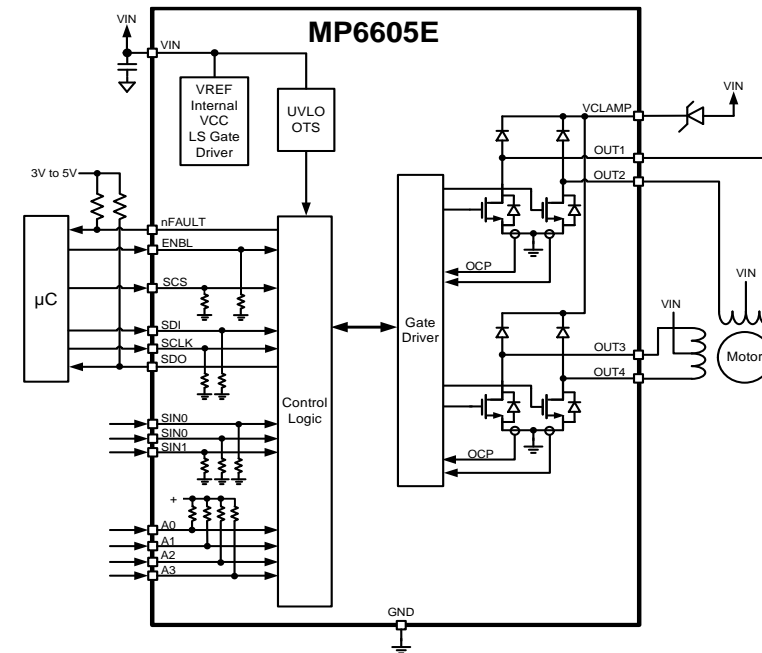
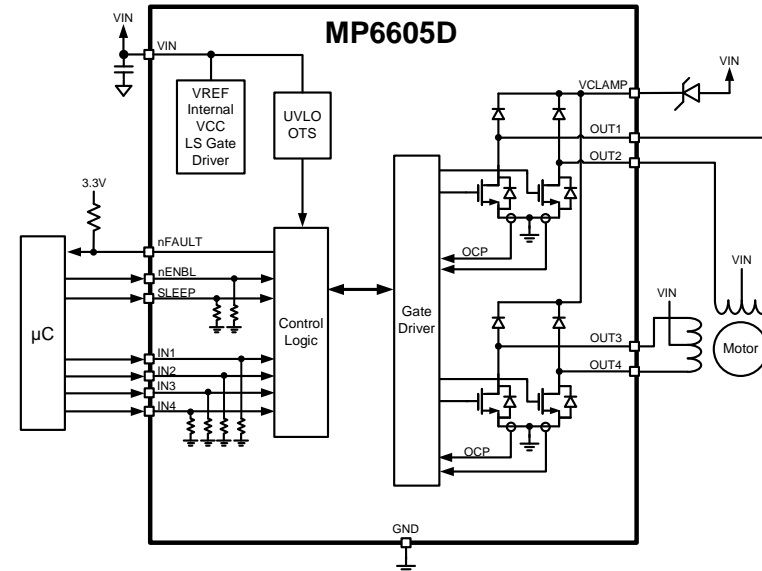
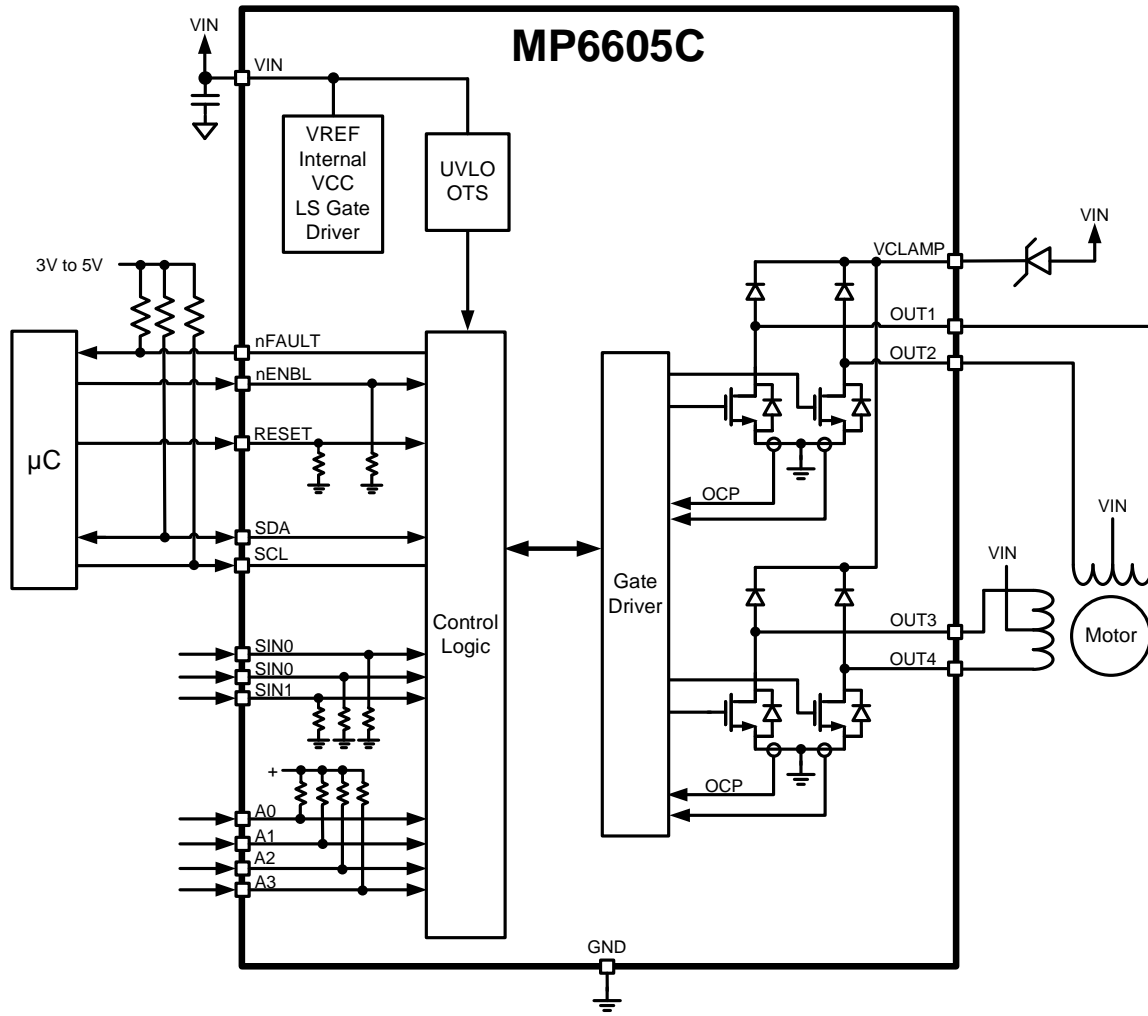


Available in a QFN-24 (4mmx4mm) Package

Road Map — Dual H-Bridges & Stepper Motors



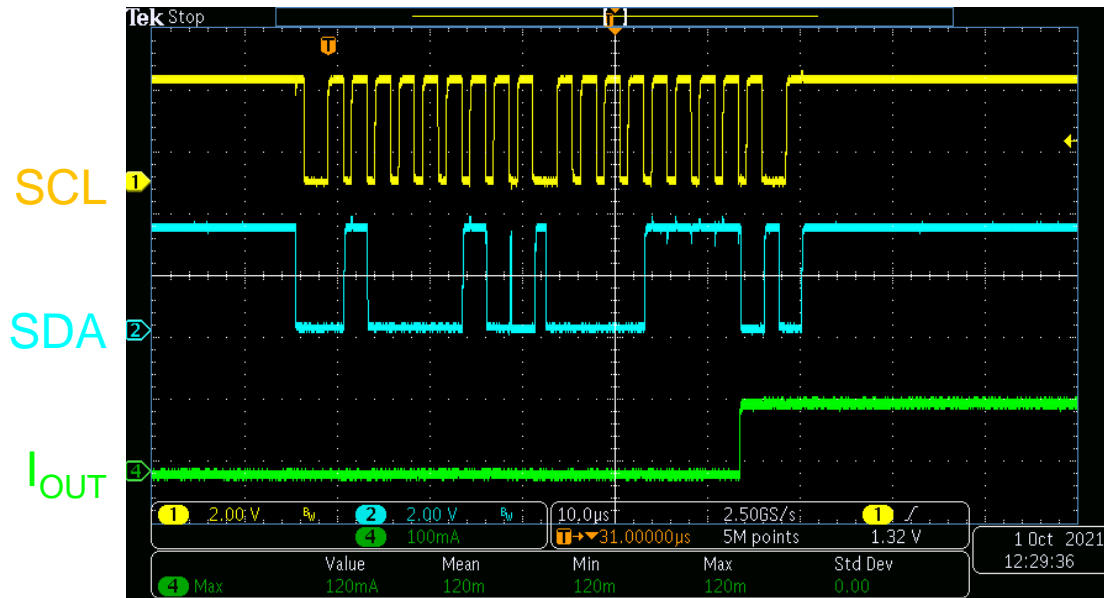
MP6605C/D/E – Functional Block Diagram



MP6605C – I²C Interface and Steady State Waveforms

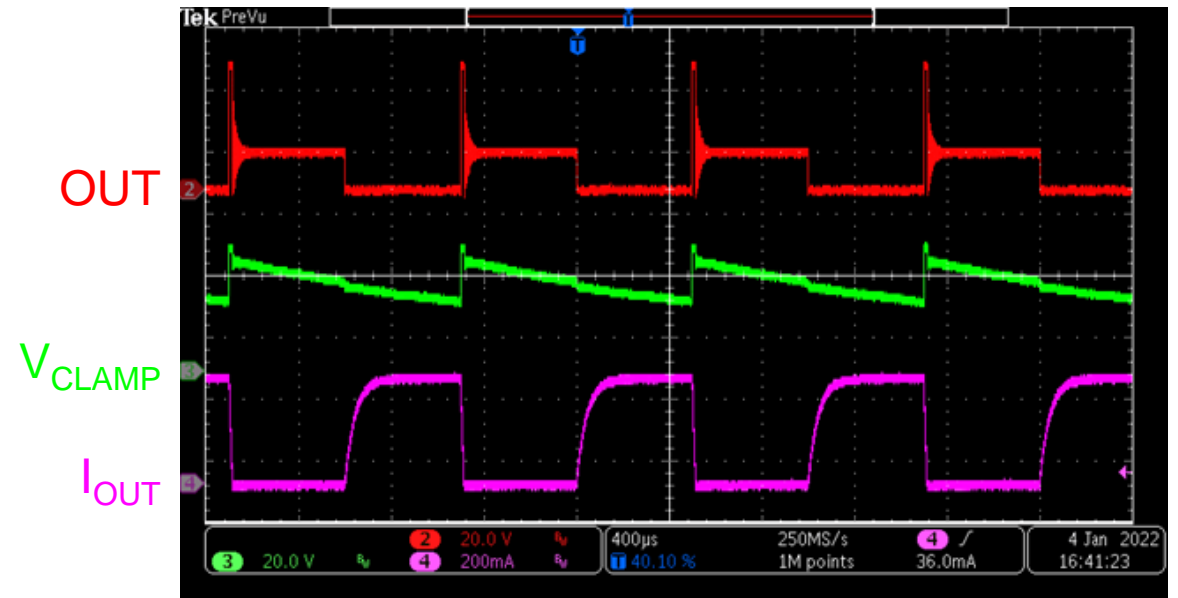
I²C Communication

$V_{IN} = 12V$, 51Ω load, device address = 0001, four LS-FETs on



Steady State

$V_{IN} = 12V$, $V_{CLAMP} = 24V$, TVS to V_{IN} , $33\Omega + 1.5mH$ load

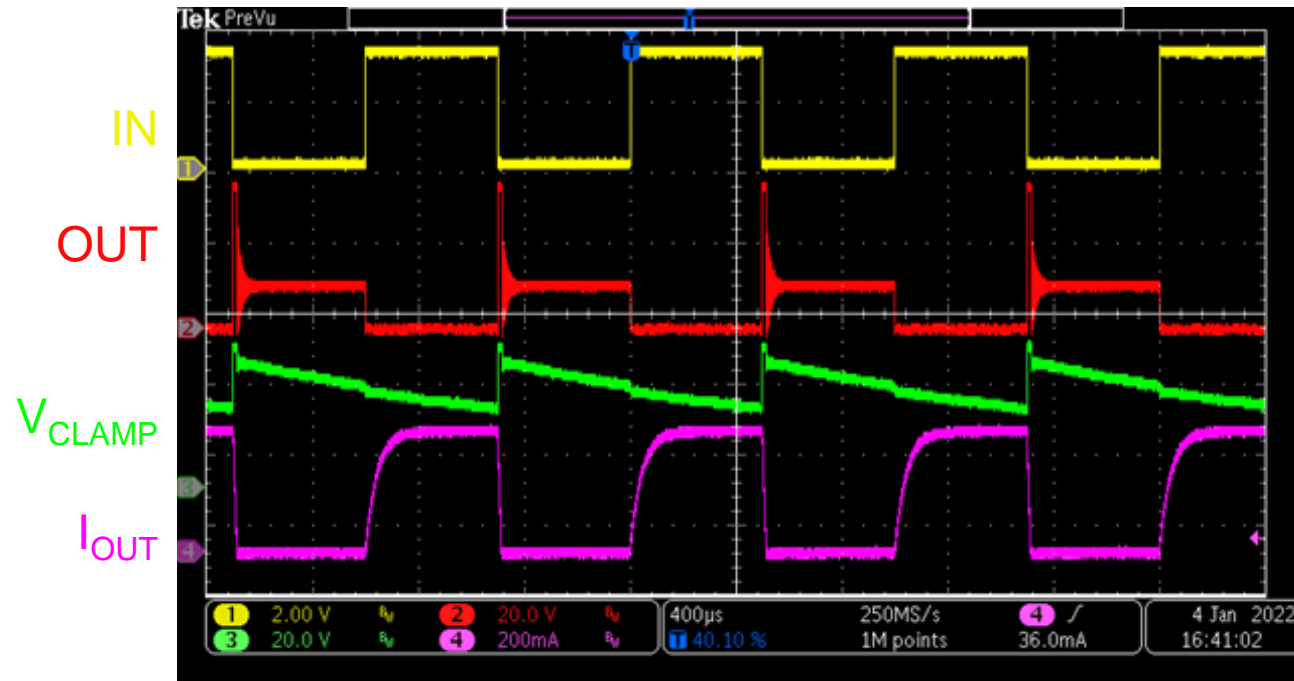


Comments: I²C communication is okay, outputs respond

MP6605D – Steady State Waveform

Steady State

$V_{IN} = 12V$, $V_{CLAMP} = 24V$ TVS to V_{IN} , $33\Omega + 1.5mH$ load



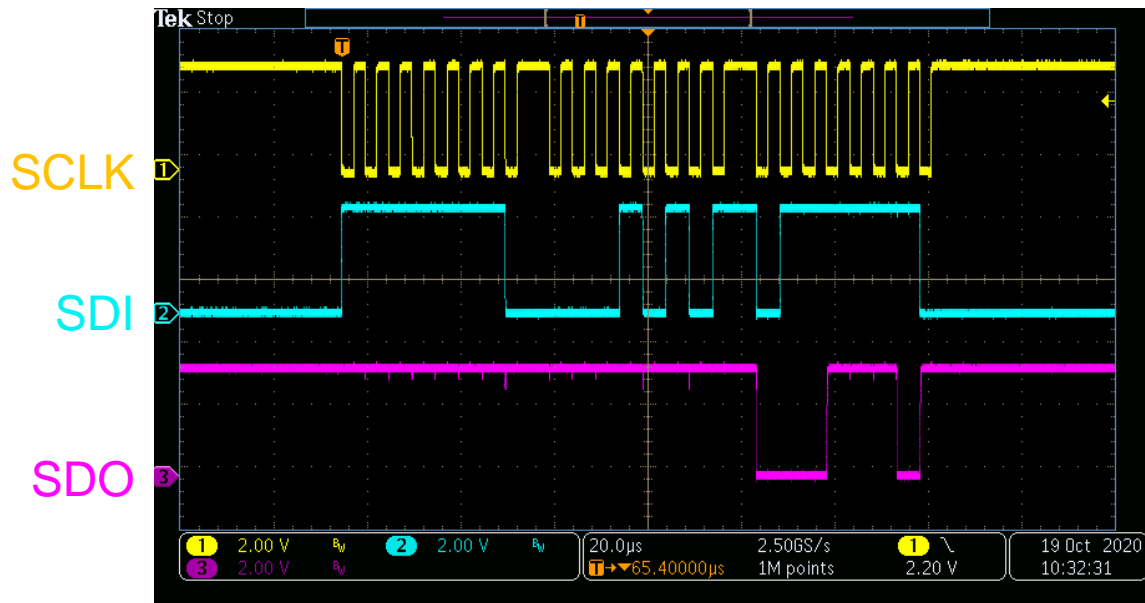
Comments: The output follows the input well

MP6605E – SPI Interface and Steady State Waveforms

Comments: SPI communication is ok, outputs respond.

SPI Communication

$V_{IN} = 12V$, SDI = FE 15 7E, SIN2:0 = 110



Steady State

$V_{IN} = 12V$, $V_{CLAMP} = 24V$, TVS to V_{IN} , $33\Omega + 1.5mH$ load

