

Mechaduno based board with better drivers and some additional improvements  
**Thomas Pointhuber**

Sheet: /  
 File: HighPower-Mechaduno.sch

### Title: Main Schematic of HighPower-Mechaduno

Size: A4 Date: 2016-12-03  
 KiCad E.D.A. kicad (2016-11-05 revision 3af551c)-master

Rev: 0.1  
 Id: 1/7



## CALCULATIONS

### ISET

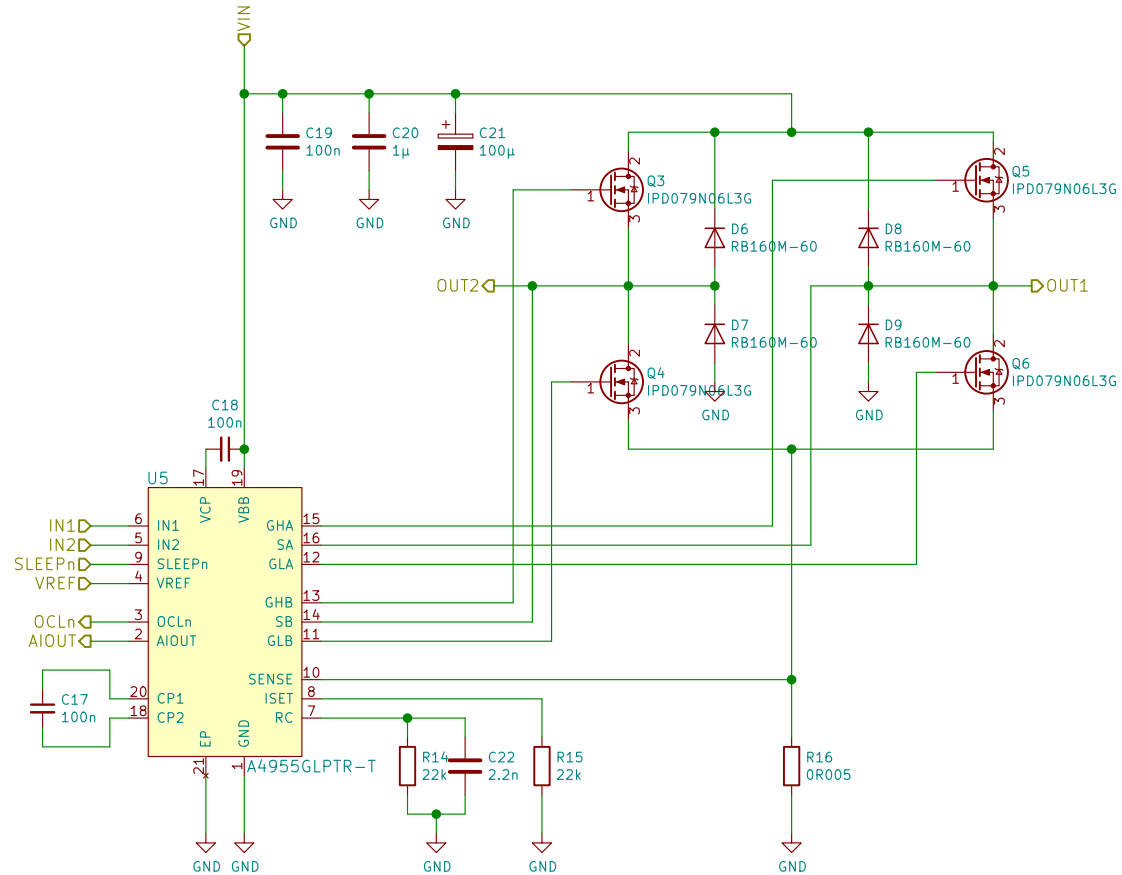
$$I_{GATE\_HS} = 42.8\text{mA}$$
$$I_{GATE\_LS} = 80.7\text{mA}$$

### RC

$$T_{OFF} = 49.4\mu\text{s}$$
$$T_{BLANK} = 6.7\mu\text{s}$$

### Current Limiter

$$I_{MAX} = 10\text{A}$$
$$V_{REF\_MAX} = 0.5\text{V}$$



Thomas Pointhuber

Sheet: /PWM\_Bridge\_A4955-A/

File: PWM\_Bridge\_A4955.sch

**Title: A4955 PWM Bridge**

Size: A4

Date: 2016-12-03

Rev: 0.1

KiCad E.D.A. kicad (2016-11-05 revision 3af551c)-master

Id: 3/7

## CALCULATIONS

### ISET

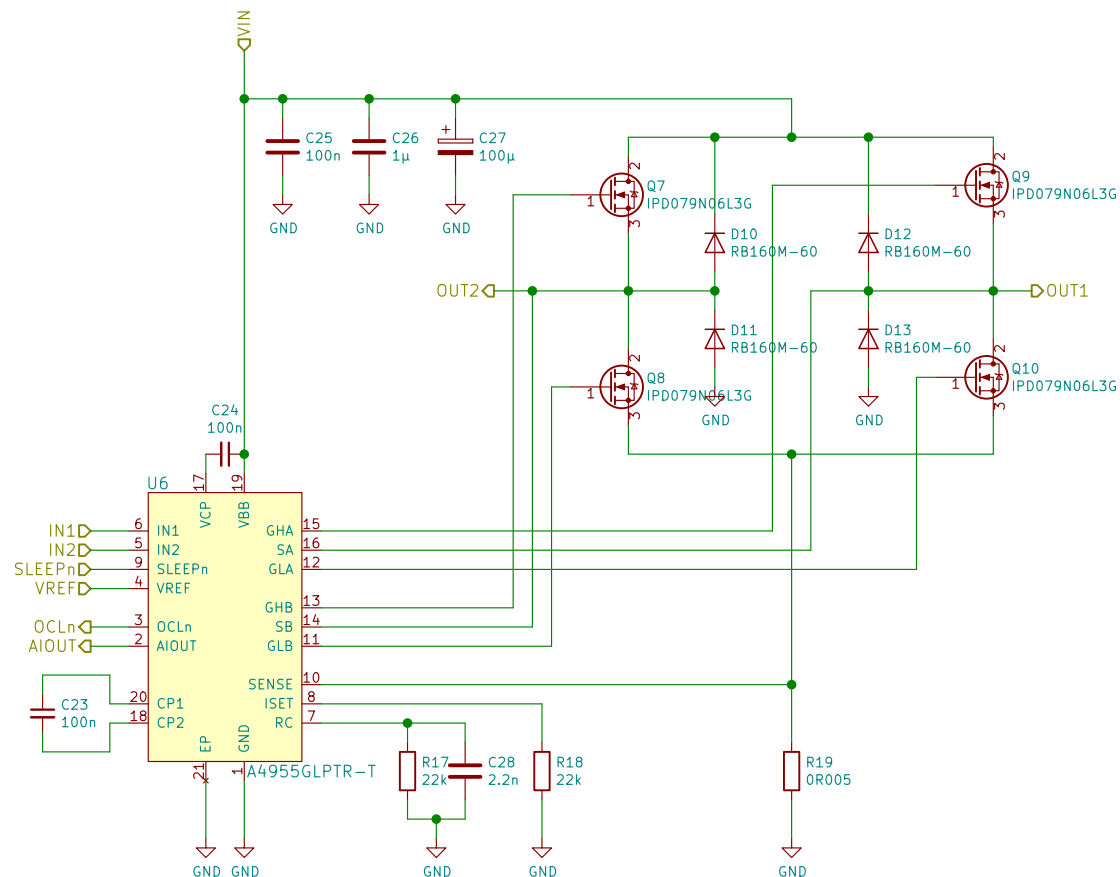
$I_{GATE\_HS} = 42.8\text{mA}$   
 $I_{GATE\_LS} = 80.7\text{mA}$

### RC

$T_{OFF} = 49.4\mu\text{s}$   
 $T_{BLANK} = 6.7\mu\text{s}$

### Current Limiter

$I_{MAX} = 10\text{A}$   
 $V_{REF\_MAX} = 0.5\text{V}$



Thomas Pointhuber

Sheet: /PWM\_Bridge\_A4955-B/

File: PWM\_Bridge\_A4955.sch

**Title: A4955 PWM Bridge**

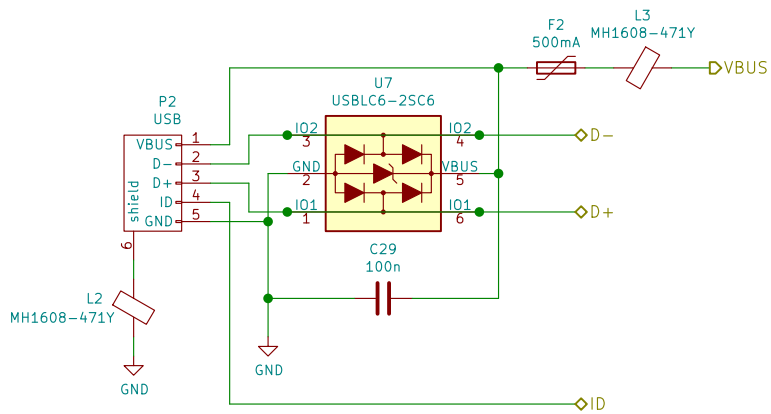
Size: A4

Date: 2016-12-03

Rev: 0.1

KiCad E.D.A. kicad (2016-11-05 revision 3af551c)-master

Id: 4/7



**Thomas Pointhuber**

Sheet: /Protected\_USB\_Supply/

File: Protected\_USB\_Supply.sch

**Title: USB input including protection circuit**

Size: A4

Date: 2016-12-03

**Rev: 0.1**

KiCad E.D.A. kicad (2016-11-05 revision 3af551c)-master

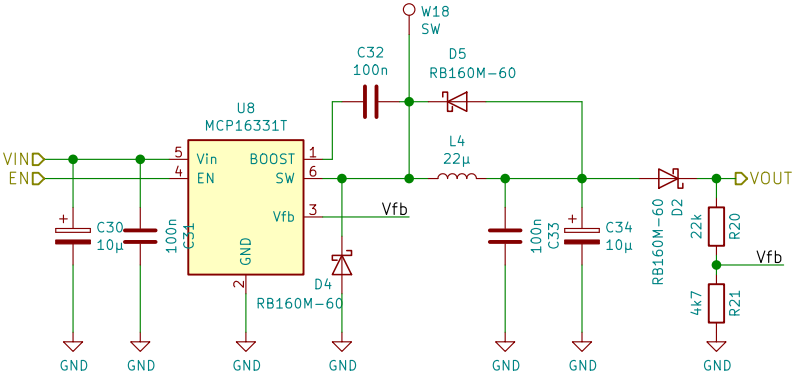
Id: 5/7

CALCULATIONS

OUTPUT VOLTAGE

R\_TOLERANCE = 5%  
U\_OUT\_MIN = 4.18V  
U\_OUT\_MAX = 4.93V

R\_TOLERANCE = 1%  
U\_OUT\_MIN = 4.47V  
U\_OUT\_MAX = 4.62V



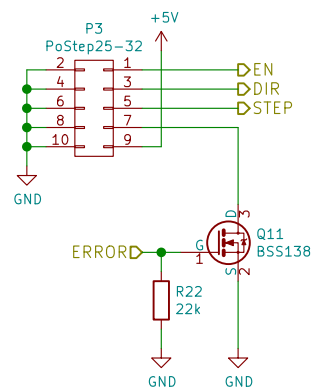
Thomas Pointhuber

Sheet: /MCP16331\_5V/  
File: MCP16331\_5V.sch

**Title: Step Down with input range of 10V-50V**

Size: A4 Date: 2016-12-03  
KiCad E.D.A. kicad (2016-11-05 revision 3af551c)-master

Rev: 0.1  
Id: 6/7



Thomas Pointhuber

Sheet: /PoStep25-32\_galvanic/  
File: PoStep25-32\_galvanic.sch

**Title: ProStep25-32 input including optional galvanic separation**

Size: A4 Date: 2016-12-03 Rev: 0.1

KiCad E.D.A. kicad (2016-11-05 revision 3af551c)-master

Id: 7/7