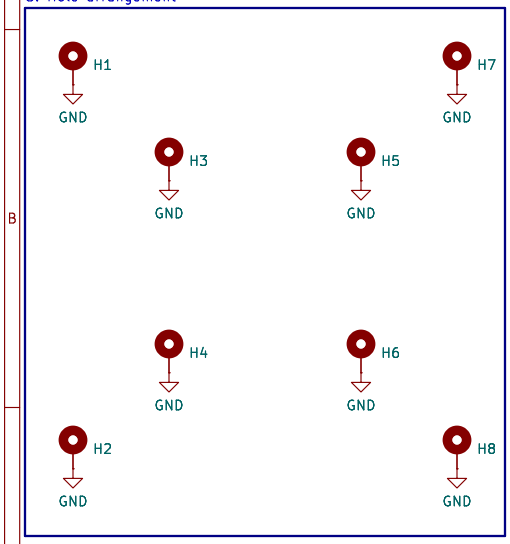
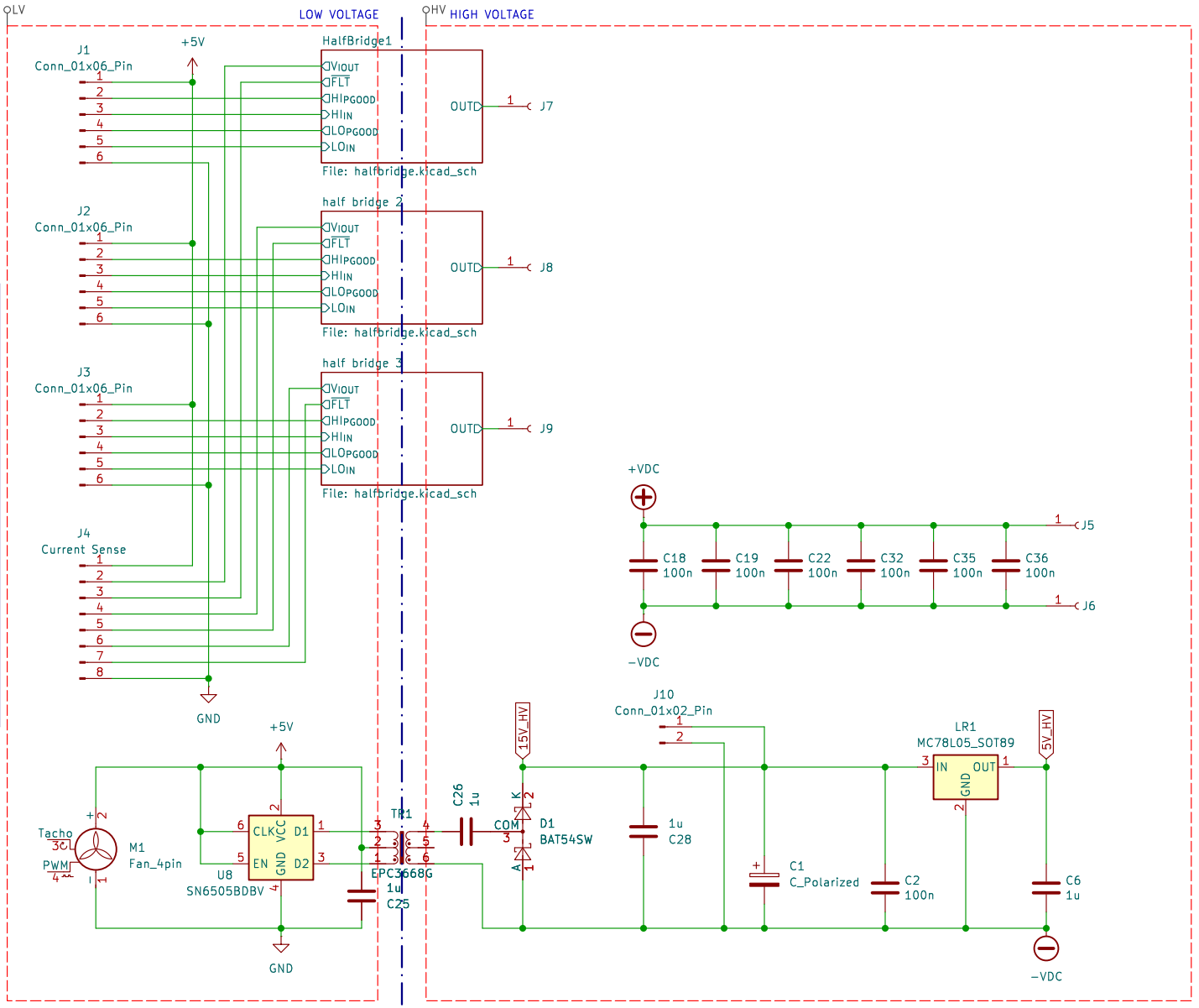
NOTE 1
J1 thru J4 are ELV and isolated from HVDC

WARNING:
J10 referenced to HVDC supply rail. primarily intended for supplying additional power to HV section if needed (pushing limits on switching frequency).

3: Hole arrangement

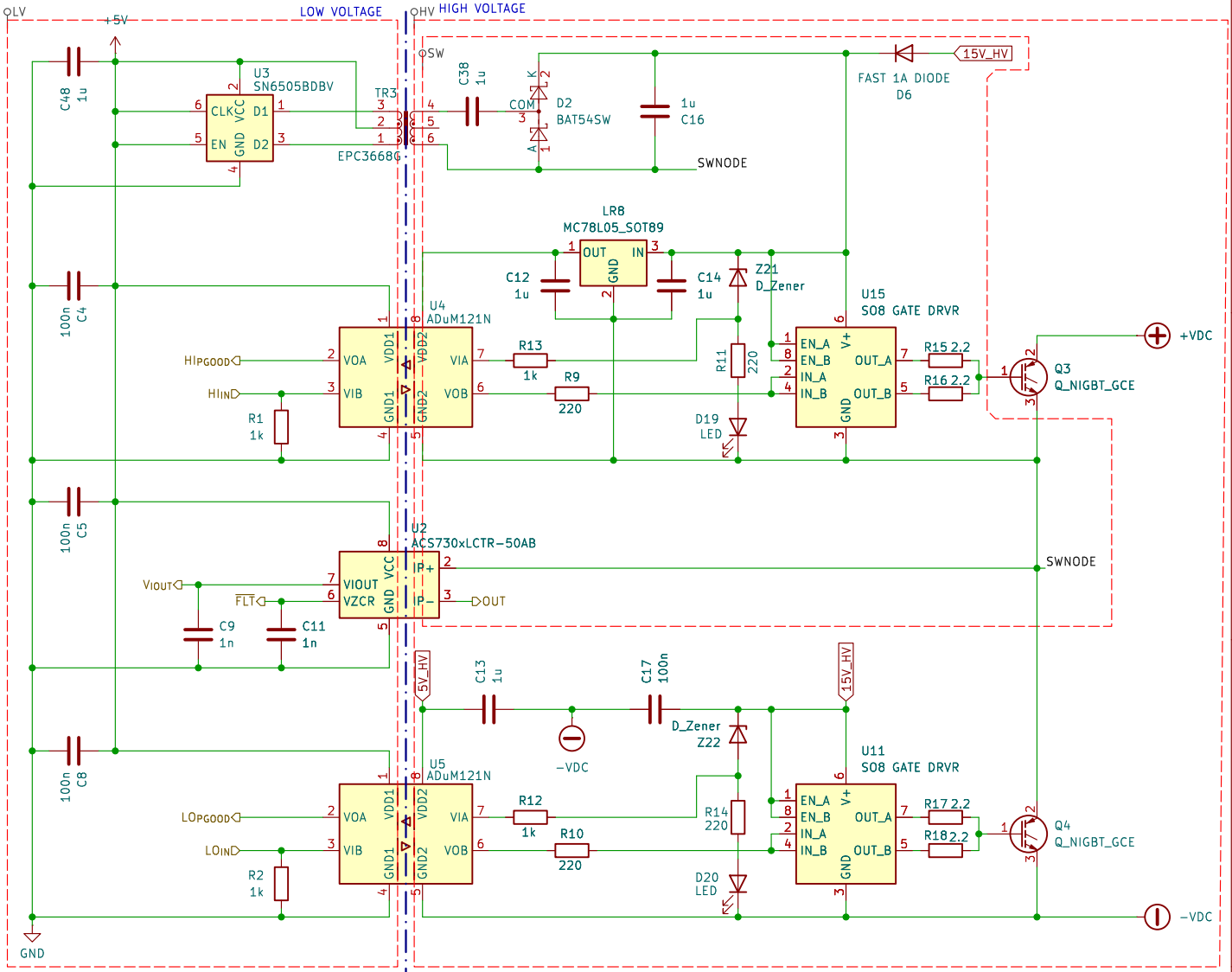




Sheet: /		
File: three_half_bridges.kicad_sch		
Title:		
Size: A	Date:	**Rev:**
KiCad E.D.A. 9.0.0		Id: 1/4

WARNING:
Do not use TO-3P and certainly not old SOT83 or TO218 transistors here, as there is no clearance between adjacent low side switches and the metal tab is connected to each half bridge SWNODE, which can be at different potentials when each half bridge is used independently.

PP note:
Logic Threshold for ADuM121 input should be 0.3Vin and 0.7Vin, which roughly translates to 1.5 and 3.5V. In addition to the 9V zener diode and 2V amber LED adds 11V to the logic threshold. So 14.5V to trigger Pgood and 12.5V to set it low. Can be fine-tuned with the current limit resistor, will be lower in practice.



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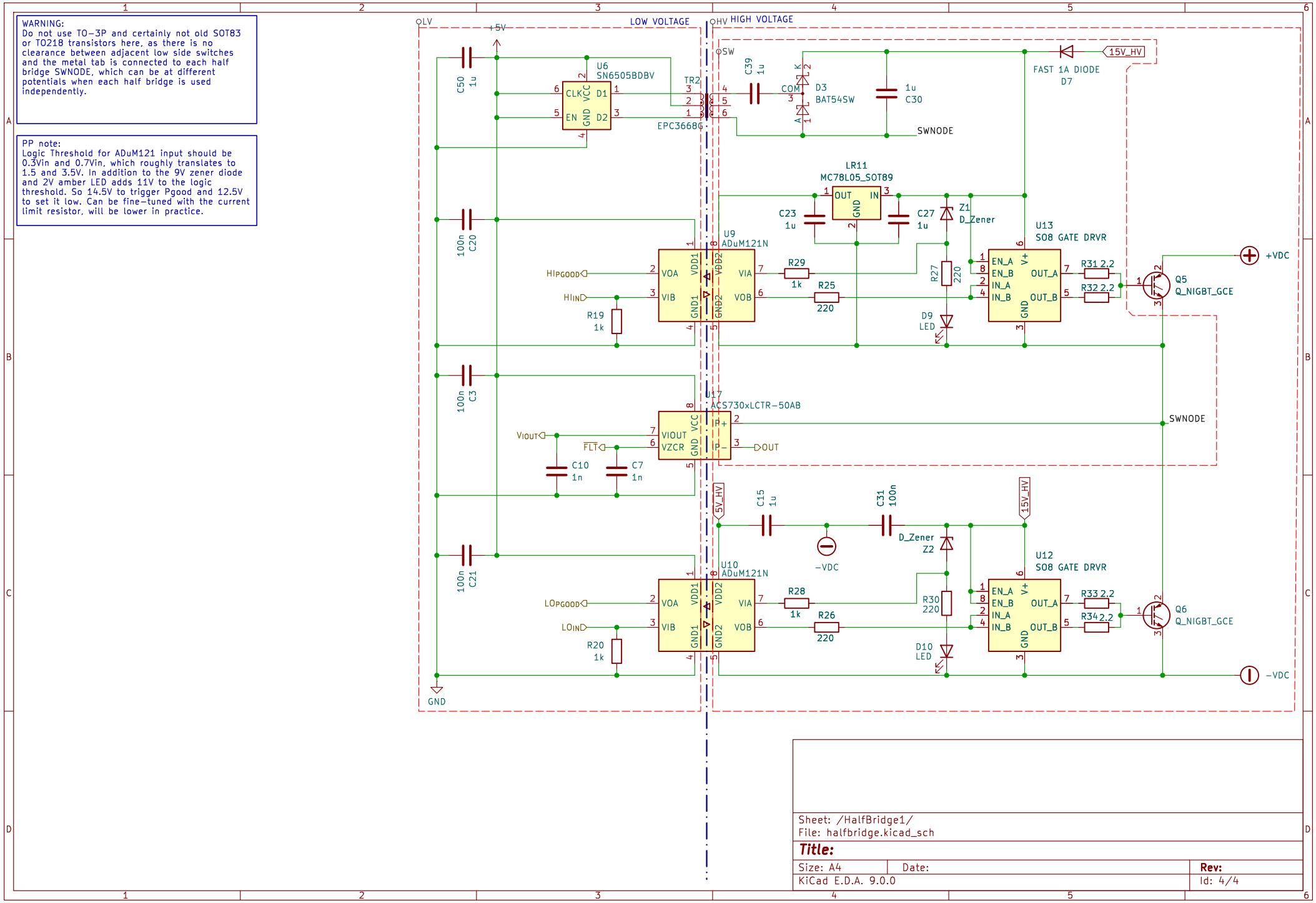
File: halfbridge.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.0		Id: 3/4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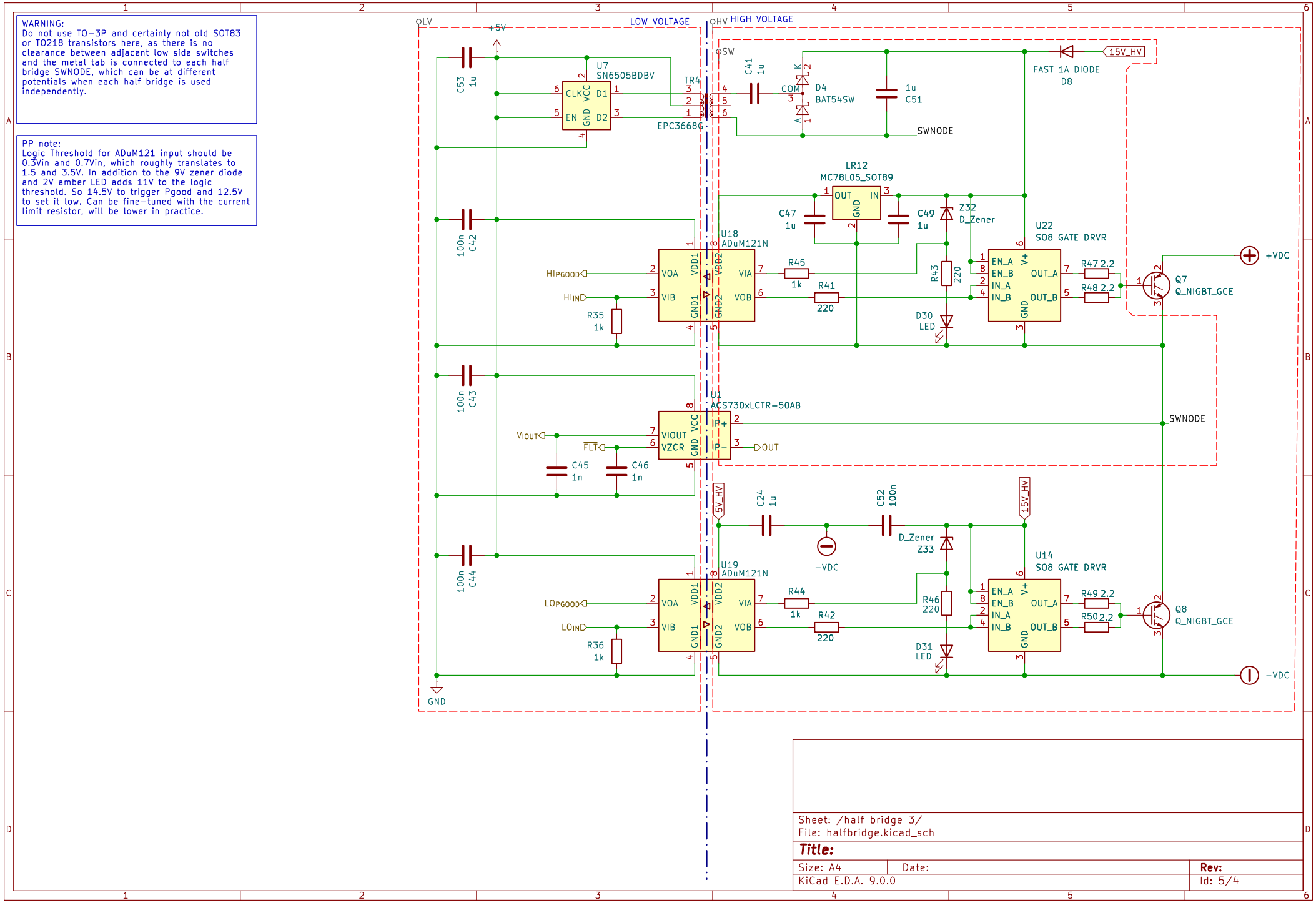
LV
LOW VOLTAGE
HV
HIGH VOLTAGE
+5V
SW
15V_HV
FAST 1A DIODE
D7
C50 1u
U6
SN6505BDBV
TR2
EPC3668G
C39 1u
D3
BAT54SW
1u
C30
SWNODE
LR11
MC78L05_SOT89
C23 1u
C27 1u
Z1
D_Zener
U13
SO8 GATE DRVR
100n C20
U9
ADuM121N
HIPGOOD
HIIN
R19 1k
R29 1k
R25 220
R27 220
D9
LED
R31 2.2
R32 2.2
Q5
Q_NIGBT_GCE
+VDC
100n C3
U17
ACS730xLCTR-50AB
VIOUT
FLT
C10 1n
C7 1n
OUT
SWNODE
5V_HV
C15 1u
C31 100n
-VDC
D_Zener
Z2
U12
SO8 GATE DRVR
100n C21
U10
ADuM121N
LOPGOOD
LOIN
R20 1k
R28 1k
R26 220
R30 220
D10
LED
R33 2.2
R34 2.2
Q6
Q_NIGBT_GCE
-VDC
GND
Sheet: /HalfBridge1/
File: halfbridge.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.0
Id: 4/4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SN6505BDBV
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C41 1u
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BAT54SW
1u
C51
SWNODE
LR12
MC78L05_SOT89
C47 1u
C49 1u
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D_Zener
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SO8 GATE DRVR
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ADuM121N
HIPGOOD
HIIN
R35 1k
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R41 220
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D30
LED
R47 2.2
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Q7
Q_NIGBT_GCE
+VDC
100n C43
U1
ACS730xLCTR-50AB
VIOUT
FLT
C45 1n
C46 1n
IP+
IP-
OUT
SWNODE
5V_HV
C24 1u
C52 100n
-VDC
D_Zener
Z33
U14
SO8 GATE DRVR
100n C44
U19
ADuM121N
LOPGOOD
LOIN
R36 1k
R44 1k
R42 220
R46 220
D31
LED
R49 2.2
R50 2.2
Q8
Q_NIGBT_GCE
-VDC
GND
Sheet: /half bridge 3/
File: halfbridge.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. 9.0.0
Id: 5/4