ATMEL-ICE CONNECTORS

Distance PIN 1 AVR connector to PIN 1 SAM connector = 13.4 pins = 17mm

J1
conn_02x05

VTG	1	2	TMS
GND	3	4	TCK
GND	5	6	TDO
	7	8	TDI
GND	9	10	nSRST

ATMEL-ICE SAM SOCKET

J2
conn_02x05

TCK	1	2	GND
TDO	3	4	VTG
TMS	5	6	nSRST
	7	8	nTRST
TDI	9	10	GND

ATMEL-ICE AVR SOCKET

TARGET CONNECTORS

ARM JTAG (20-pin acc. to MULTI-ICE)

J11
conn_02x10

VIN_JTAG	1	2	
nTRST	3	4	GND
TDI	5	6	GND
TMS	7	8	GND
TCK	9	10	GND
	11	12	GND
TDO	13	14	
nSRST	15	16	
	17	18	
	19	20	

JTAG/SWD SAM (ARM/Cortex-M dbg)

J12
conn_02x05_key7

VIN_JTAG	1	2	TMS
GND	3	4	TCK
GND	5	6	TDO
		8	TDI
GND	9	10	nSRST

J13
conn_02x05_key7

TCK	1	2	GND
TDO	3	4	VIN_JTAG
TMS	5	6	nSRST
		8	nTRST
TDI	9	10	GND

ARDUINO 4-PIN DEBUG CONNECTOR
with added VCC

J15
conn_01x04

GND	1
TCK	2
TMS	3
nSRST	4

J16
conn_01x01

VIN_PROBE	1

6-PIN VARIOUS:
AVR aWire
AVR SPI + debugWire
AVR (U)PDI
AVR TPI

J17
Conn_01x02_Female

VIN_PROBE	1
GND	2

J14
conn_02x03

TDO	1	2	VIN_AVR
TCK	3	4	TDI
nSRST	5	6	GND

J18
conn_02x03_Female

TDI	1	2	TDO
TCK	3	4	TMS
nSRST	5	6	nTRST

VOLTAGE TEST POINTS

J6
Conn_01x01_Female

VTG	1

PWR_FLAG
GND

J21 / J31
Conn_01x02_Angled

GND	1	1	GND
VTG	2	2	VTG

J22 / J32
Conn_02x02_Angled

TDI	1	1	TDI
TDO	2	2	TDO
TCK	3	3	TCK
TMS	4	4	TMS

J23 / J33
Conn_01x02_Angled

nTRST	1	1	nTRST
nSRST	2	2	nSRST

H1 MountingHole
H2 MountingHole
H3 MountingHole

MB1 Mouse bites
MB2 Mouse bites
MB3 Mouse bites
MB4 Mouse bites

J8

VIN_PROBE	5	6	
VIN_JTAG	3	4	
VIN_AVR	1	2	VIN

D1
SMAJ13A
GND

VoltageLimiter
File: VoltageLimiter.kicad_sch

VIN	VIN
VOUT	JP1
VIN_ABOVED	VIN_ABOVE
VIN_BELOWD	VIN_BELOW

JP1
VTG
R56
1M
GND

VoltageBooster
File: VoltageBooster.kicad_sch

VIN	VIN
VBOOSTD	JP2

JP2
VLED

StatusLeds
File: StatusLeds.kicad_sch

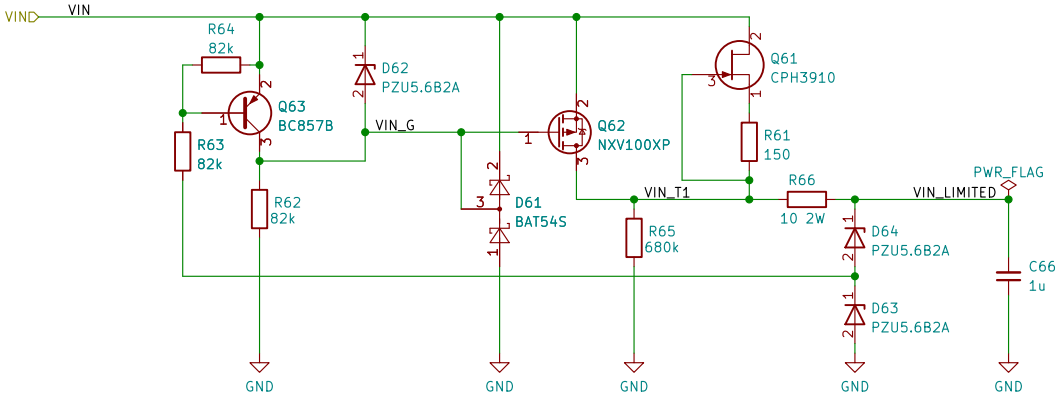
VLED	VLED
VTG	VTG
VIN_ABOVE	VIN_ABOVE
VIN_BELOW	VIN_BELOW

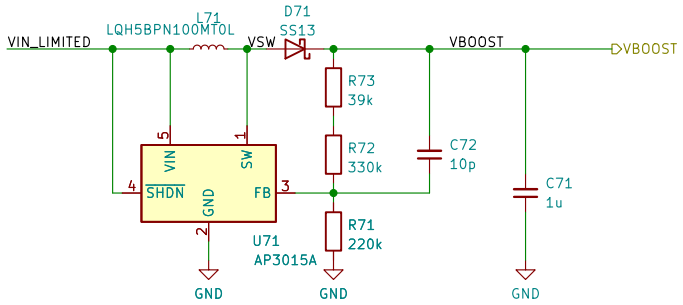
Adapter for using ATMEL-ICE with various targets
With monitoring of VCCIO to avoid damaging targets due to bad wiring
(e.g. SPI connector on Arduino Due)

Sheet: /
File: ATMEL-ICE-Octopus.kicad_sch

Title: ATMEL-ICE-OCTOPUS

Size: A4	Date:	Rev: B6
KiCad E.D.A. kicad (6.0.10-0)		Id: 1/4





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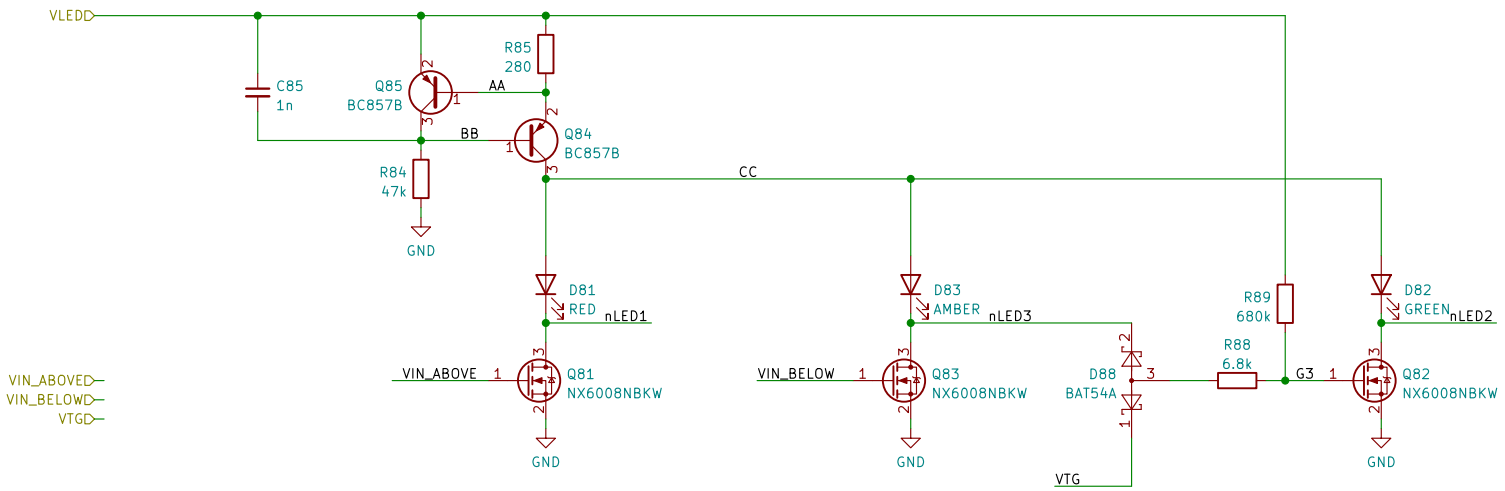
KiCad E.D.A. kicad (6.0.10-0)		Id: 4/4



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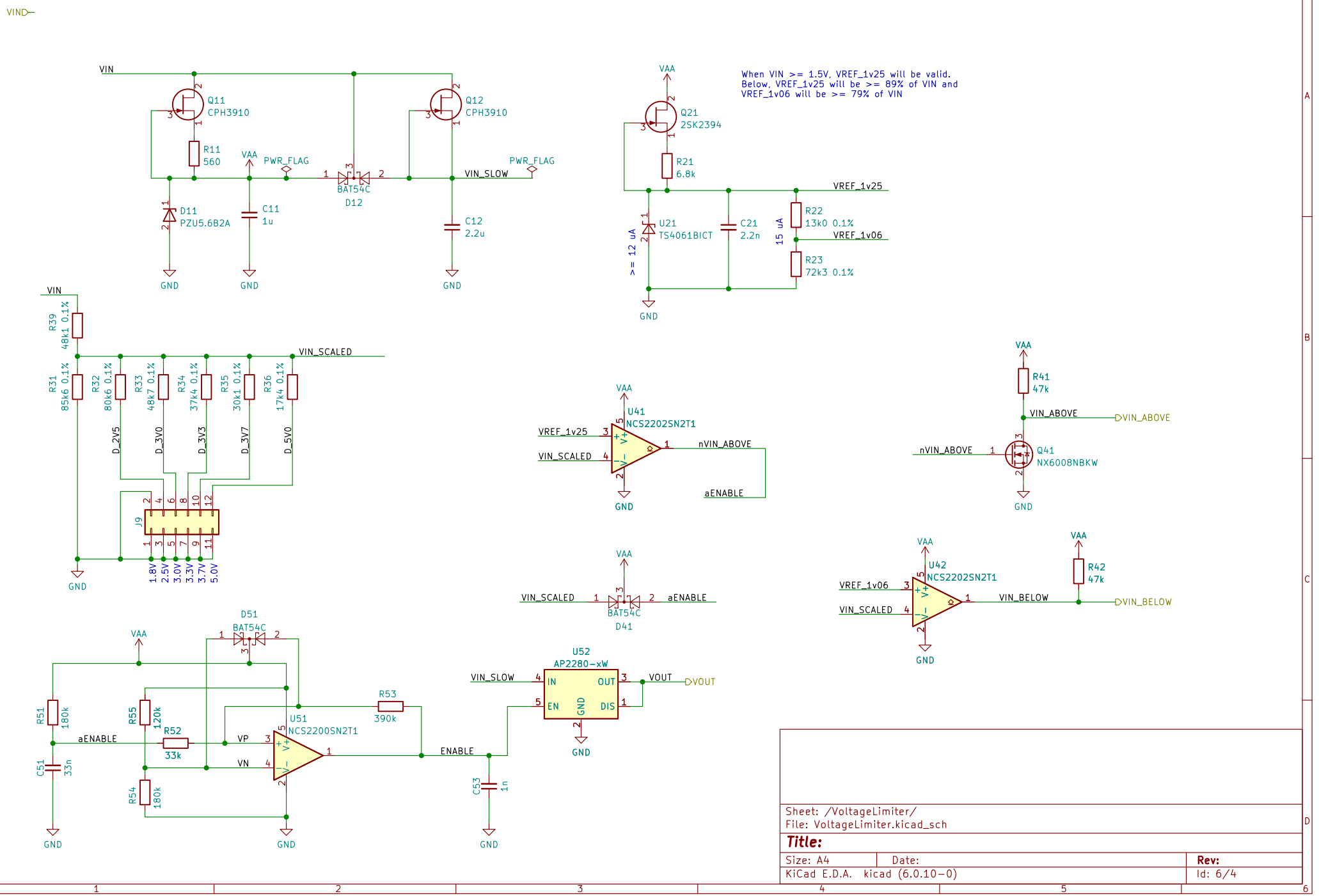
KiCad E.D.A. kicad (6.0.10-0)	**Rev:** Id: 5/4


VIND
VIN
Q11
CPH3910
R11
560
VAA
PWR_FLAG
D11
PZU5.6B2A
C11
1u
BAT54C
D12
Q12
CPH3910
VIN_SLOW
PWR_FLAG
C12
2.2u
GND
When VIN >= 1.5V, VREF_1v25 will be valid.
Below, VREF_1v25 will be >= 89% of VIN and
VREF_1v06 will be >= 79% of VIN
Q21
2SK2394
R21
6.8k
VREF_1v25
U21
TS4061BICT
>= 12 uA
C21
2.2n
15 uA
R22
13k0 0.1%
VREF_1v06
R23
72k3 0.1%
R39
48k1 0.1%
R31
85k6 0.1%
R32
80k6 0.1%
R33
48k7 0.1%
R34
37k4 0.1%
R35
30k1 0.1%
R36
17k4 0.1%
VIN_SCALED
D_2V5
D_3V0
D_3V3
D_3V7
D_5V0
J9
1.8V
2.5V
3.0V
3.3V
3.7V
5.0V
U41
NCS2202SN2T1
VREF_1v25
VIN_SCALED
nVIN_ABOVE
aENABLE
R41
47k
VIN_ABOVE
Q41
NX6008NBKW
BAT54C
D41
U42
NCS2202SN2T1
VREF_1v06
VIN_BELOW
R42
47k
D51
BAT54C
R51
180k
R55
120k
R52
33k
aENABLE
C51
33n
R54
180k
U51
NCS2200SN2T1
VP
VN
R53
390k
ENABLE
C53
1n
U52
AP2280-xW
IN
OUT
EN
GND
DIS
VOUT
Sheet: /VoltageLimiter/
File: VoltageLimiter.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. kicad (6.0.10-0)
Id: 6/4