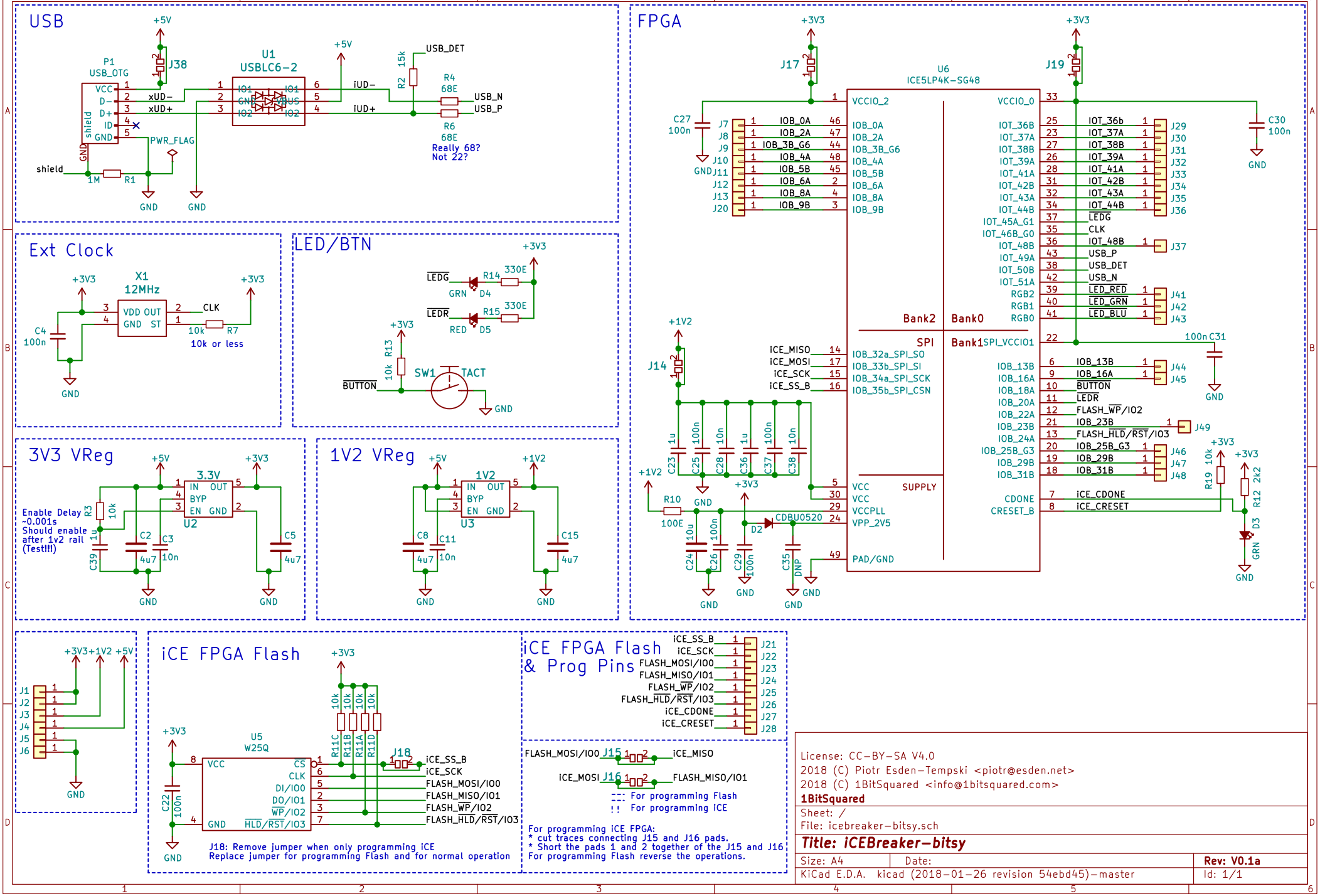
USB
P1
USB_OTG
U1
USBLC6-2
J38
+5V
VCC
D-
D+
ID
GND
shield
xUD-
xUD+
iUD-
iUD+
USB_DET
USB_N
USB_P
R2 15k
R4 68E
R6 68E
Really 68?
Not 22?
PWR_FLAG
1M
R1
Ext Clock
X1
12MHz
VDD OUT
GND ST
CLK
C4 100n
10k
R7
10k or less
LED/BTN
LEDG
LEDR
GRN D4
RED D5
R14 330E
R15 330E
R13 10k
SW1 TACT
BUTTON
3V3 VReg
3.3V
IN OUT
BYP
EN GND
U2
R3 10k
C2 4u7
C3 10n
C5 4u7
C39 1u
Enable Delay ~0.001s
Should enable after 1v2 rail
(Test!!!)
1V2 VReg
1V2
U3
C8 4u7
C11 10n
C15 4u7
FPGA
U6
ICE5LP4K-SG48
J17
J19
VCCIO_2
VCCIO_0
Bank2
Bank0
Bank1
SPI
SUPPLY
SPI_VCCIO1
IOB_0A
IOB_2A
IOB_3B_G6
IOB_4A
IOB_5B
IOB_6A
IOB_8A
IOB_9B
IOT_36B
IOT_37A
IOT_38B
IOT_39A
IOT_41A
IOT_42B
IOT_43A
IOT_44B
IOT_45A_G1
IOT_46B_G0
IOT_48B
IOT_49A
IOT_50B
IOT_51A
RGB2
RGB1
RGB0
LEDG
CLK
USB_P
USB_DET
USB_N
LED_RED
LED_GRN
LED_BLU
IOB_13B
IOB_16A
BUTTON
LEDR
FLASH_WP/IO2
IOB_23B
FLASH_HLD/RST/IO3
IOB_24A
IOB_25B_G3
IOB_29B
IOB_31B
CDONE
CRESET_B
iCE_CDONE
iCE_CRESET
iCE_MISO
iCE_MOSI
iCE_SCK
iCE_SS_B
IOB_32a_SPI_SO
IOB_33b_SPI_SI
IOB_34a_SPI_SCK
IOB_35b_SPI_CSN
VCC
VCCPLL
VPP_2V5
PAD/GND
CDBU0520
D2
R10 100E
C30 100n
C31 100n
R19 10k
R12 2k2
D3 GRN
J14
J1
J2
J3
J4
J5
J6
iCE FPGA Flash
U5
W25Q
CS
CLK
DI/IO0
DO/IO1
WP/IO2
HLD/RST/IO3
C22 100n
R11C 10k
R11B 10k
R11A 10k
R11D 10k
J18
iCE_SS_B
iCE_SCK
FLASH_MOSI/IO0
FLASH_MISO/IO1
FLASH_WP/IO2
FLASH_HLD/RST/IO3
J18: Remove jumper when only programming iCE
Replace jumper for programming Flash and for normal operation
iCE FPGA Flash & Prog Pins
J21
J22
J23
J24
J25
J26
J27
J28
J15
J16
For programming Flash
For programming iCE
For programming iCE FPGA:
* cut traces connecting J15 and J16 pads.
* Short the pads 1 and 2 together of the J15 and J16
For programming Flash reverse the operations.
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Sheet: /
File: icebreaker-bitsy.sch
Title: iCEBreaker-bitsy
Size: A4
Date:
Rev: V0.1a
KiCad E.D.A. kicad (2018-01-26 revision 54ebd45)-master
Id: 1/1