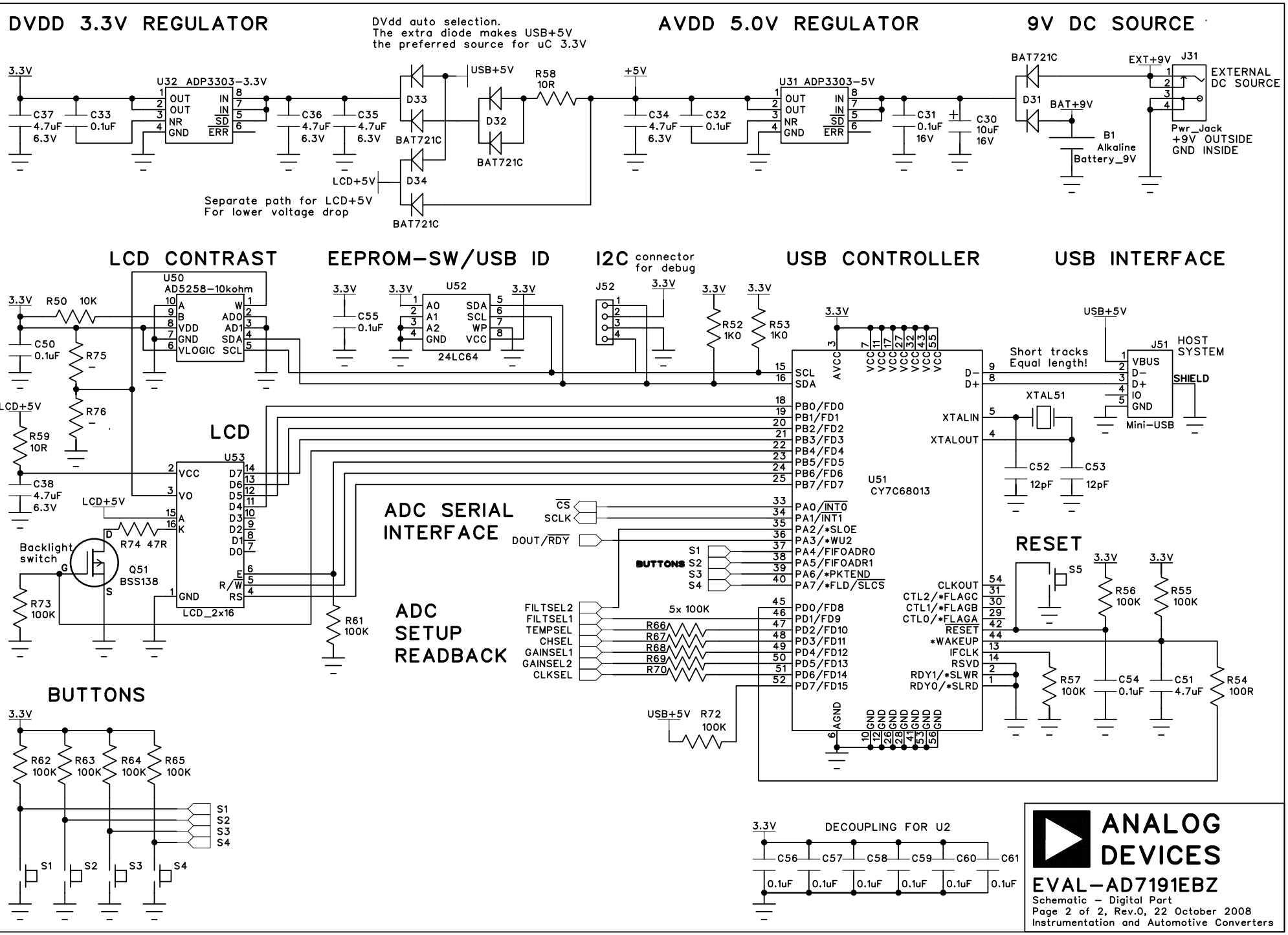
DVDD 3.3V REGULATOR
DVdd auto selection.
The extra diode makes USB+5V
the preferred source for uC 3.3V
AVDD 5.0V REGULATOR
9V DC SOURCE
U32 ADP3303-3.3V
U31 ADP3303-5V
3.3V
+5V
USB+5V
LCD+5V
D33
D32
D34
BAT721C
R58
10R
C37
4.7uF
6.3V
C33
0.1uF
C36
4.7uF
6.3V
C35
4.7uF
6.3V
C34
4.7uF
6.3V
C32
0.1uF
C31
0.1uF
16V
C30
10uF
16V
Separate path for LCD+5V
For lower voltage drop
EXT+9V
J31
EXTERNAL
DC SOURCE
BAT+9V
B1
Alkaline
Battery_9V
Pwr_Jack
+9V OUTSIDE
GND INSIDE
LCD CONTRAST
EEPROM-SW/USB ID
I2C connector
for debug
USB CONTROLLER
USB INTERFACE
U50
AD5258-10kohm
R50 10K
R75
R76
C50
0.1uF
U52
24LC64
C55
0.1uF
J52
R52
1K0
R53
1K0
LCD
U53
LCD_2x16
R59
10R
C38
4.7uF
6.3V
R74 47R
Q51
BSS138
Backlight
switch
R73
100K
R61
100K
ADC SERIAL
INTERFACE
CS
SCLK
DOUT/RDY
BUTTONS
S1
S2
S3
S4
ADC
SETUP
READBACK
FILTSEL2
FILTSEL1
TEMPSEL
CHSEL
GAINSEL1
GAINSEL2
CLKSEL
5x 100K
R66
R67
R68
R69
R70
U51
CY7C68013
SCL
SDA
PB0/FD0
PB1/FD1
PB2/FD2
PB3/FD3
PB4/FD4
PB5/FD5
PB6/FD6
PB7/FD7
PA0/INT0
PA1/INT1
PA2/*SLOE
PA3/*WU2
PA4/FIFOADR0
PA5/FIFOADR1
PA6/*PKTEND
PA7/*FLD/SLCS
PD0/FD8
PD1/FD9
PD2/FD10
PD3/FD11
PD4/FD12
PD5/FD13
PD6/FD14
PD7/FD15
AVCC
VCC
AGND
GND
D-
D+
XTALIN
XTALOUT
XTAL51
C52
12pF
C53
12pF
Short tracks
Equal length!
USB+5V
J51
HOST
SYSTEM
VBUS
D-
D+
ID
GND
SHIELD
Mini-USB
RESET
S5
R56
100K
R55
100K
CLKOUT
CTL2/*FLAGC
CTL1/*FLAGB
CTL0/*FLAGA
RESET
*WAKEUP
IFCLK
RSVD
RDY1/*SLWR
RDY0/*SLRD
R57
100K
C54
0.1uF
C51
4.7uF
R54
100R
USB+5V R72
100K
BUTTONS
R62
100K
R63
100K
R64
100K
R65
100K
S1
S2
S3
S4
DECOUPLING FOR U2
C56
C57
C58
C59
C60
C61
0.1uF
ANALOG
DEVICES
EVAL-AD7191EBZ
Schematic – Digital Part
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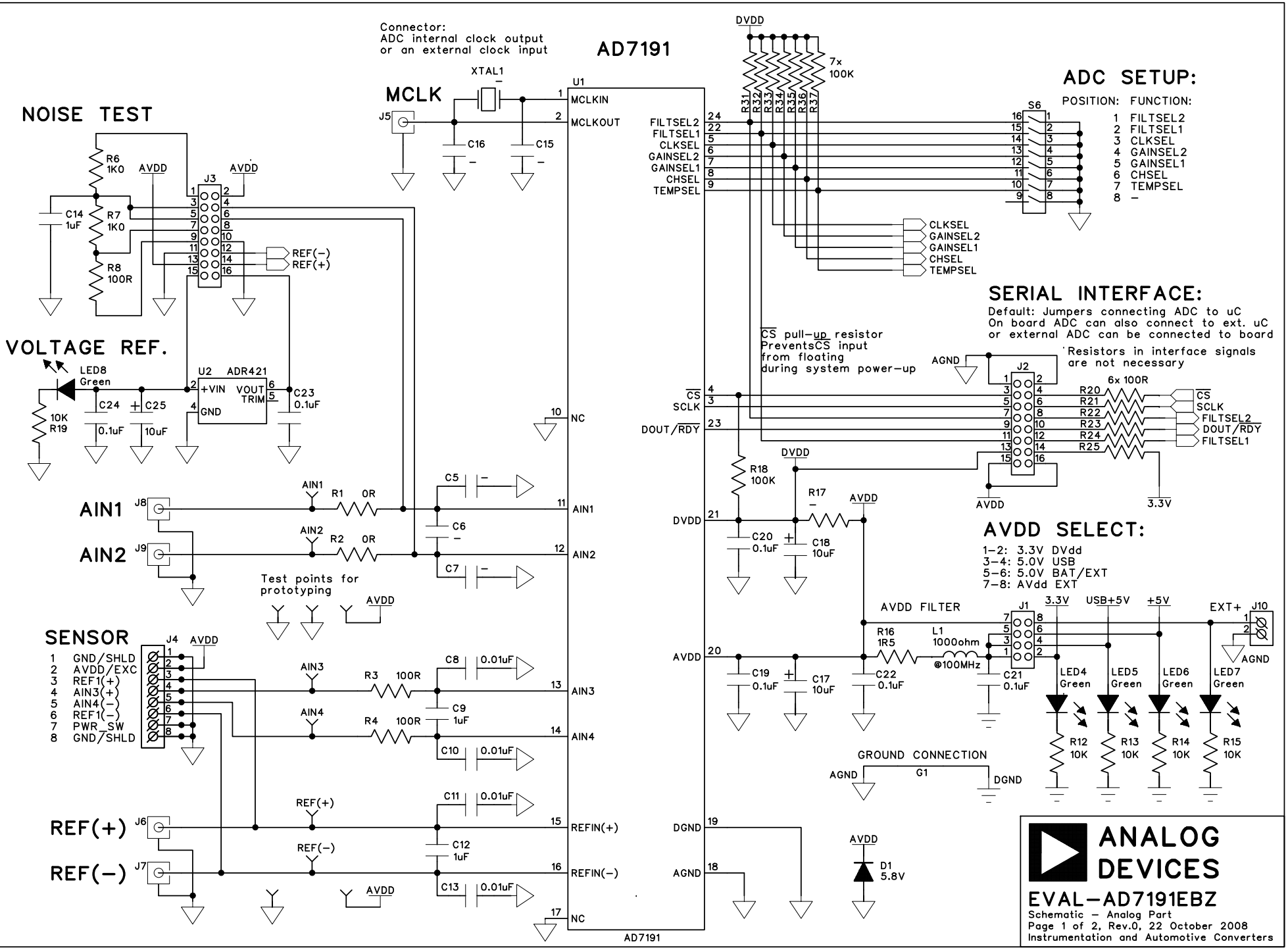
Connector:
ADC internal clock output
or an external clock input
AD7191
MCLK
XTAL1
J5
U1
MCLKIN
MCLKOUT
C16
C15
NOISE TEST
R6 1K0
R7 1K0
R8 100R
C14 1uF
AVDD
J3
REF(−)
REF(+)
VOLTAGE REF.
LED8 Green
U2 ADR421
+VIN
VOUT
TRIM
GND
C23 0.1uF
C24 0.1uF
C25 10uF
10K R19
AIN1
AIN2
J8
J9
R1 0R
R2 0R
C5
C6
C7
Test points for prototyping
SENSOR
J4
1 GND/SHLD
2 AVDD/EXC
3 REF1(+)
4 AIN3(+)
5 AIN4(−)
6 REF1(−)
7 PWR_SW
8 GND/SHLD
AIN3
AIN4
R3 100R
R4 100R
C8 0.01uF
C9 1uF
C10 0.01uF
REF(+)
REF(−)
J6
J7
C11 0.01uF
C12 1uF
C13 0.01uF
NC
REFIN(+)
REFIN(−)
FILTSEL2
FILTSEL1
CLKSEL
GAINSEL2
GAINSEL1
CHSEL
TEMPSEL
DVDD
7x 100K
R31
R32
R33
R34
R35
R36
R37
S6
ADC SETUP:
POSITION: FUNCTION:
1 FILTSEL2
2 FILTSEL1
3 CLKSEL
4 GAINSEL2
5 GAINSEL1
6 CHSEL
7 TEMPSEL
8 −
SERIAL INTERFACE:
Default: Jumpers connecting ADC to uC
On board ADC can also connect to ext. uC
or external ADC can be connected to board
CS pull−up resistor
PreventsCS input
from floating
during system power−up
Resistors in interface signals
are not necessary
J2
6x 100R
R20
R21
R22
R23
R24
R25
CS
SCLK
DOUT/RDY
R18 100K
C20 0.1uF
C18 10uF
R17
AVDD SELECT:
1−2: 3.3V DVdd
3−4: 5.0V USB
5−6: 5.0V BAT/EXT
7−8: AVdd EXT
AVDD FILTER
R16 1R5
L1 1000ohm @100MHz
C19 0.1uF
C17 10uF
C22 0.1uF
C21 0.1uF
J1
3.3V
USB+5V
+5V
EXT+
J10
LED4 Green
LED5 Green
LED6 Green
LED7 Green
R12 10K
R13 10K
R14 10K
R15 10K
GROUND CONNECTION
G1
AGND
DGND
D1 5.8V
ANALOG DEVICES
EVAL−AD7191EBZ
Schematic − Analog Part
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