AVR-LPC

Current Demo Board

Pin labels (top row): L, N, N, GND, GNDI, I0, I1, I2, I3, I4, AGND, AI0

Connector references (top): X101-1, X101-2, X101-3, X101-4, X101-5, X101-6, X102-1, X102-2, X102-3, X102-4, X102-5, X102-6

Pin labels (bottom row): Q0, Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, SCL, SDA

Grouped labels (bottom): Q0, Q1, Q2, Q3, Q4

Connector references (bottom): X103-1, X103-2, X103-3, X103-4, X103-5, X103-6, X104-1, X104-2, X104-3, X104-4, X104-5, X104-6

IO Connectors	AVR-LPC
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F201 250V/10mA
TR201
D201 1N4007
D202 1N4007
D203 1N4007
D204 1N4007
+15V
GND

C205 2200uF/25V
C206 100nF/63V
+15V
GND

+15V → IC201 LM7812 → +12V
C201 250uF/25V
C202 100nF/63V
C203 100nF/63V
C204 250uF/25V
GND

IC202 LM7805
+15V → +5V
C207 250uF/25V
C208 100nF/63V
C209 100nF/63V
C210 250uF/25V
GND

R201 +12V
R202 +12V
R207
VR201 TL431
AVCC
C211 100nF/63V
GND

R203 +12V
R204 +12V
R208
VR202 TL431
AREF
C212 100nF/63V
GND

R205 1K +12V
D205 SFH205
R206 330 +5V
D206 SFH205
GND

GNDI

AGND

L201 1mH*
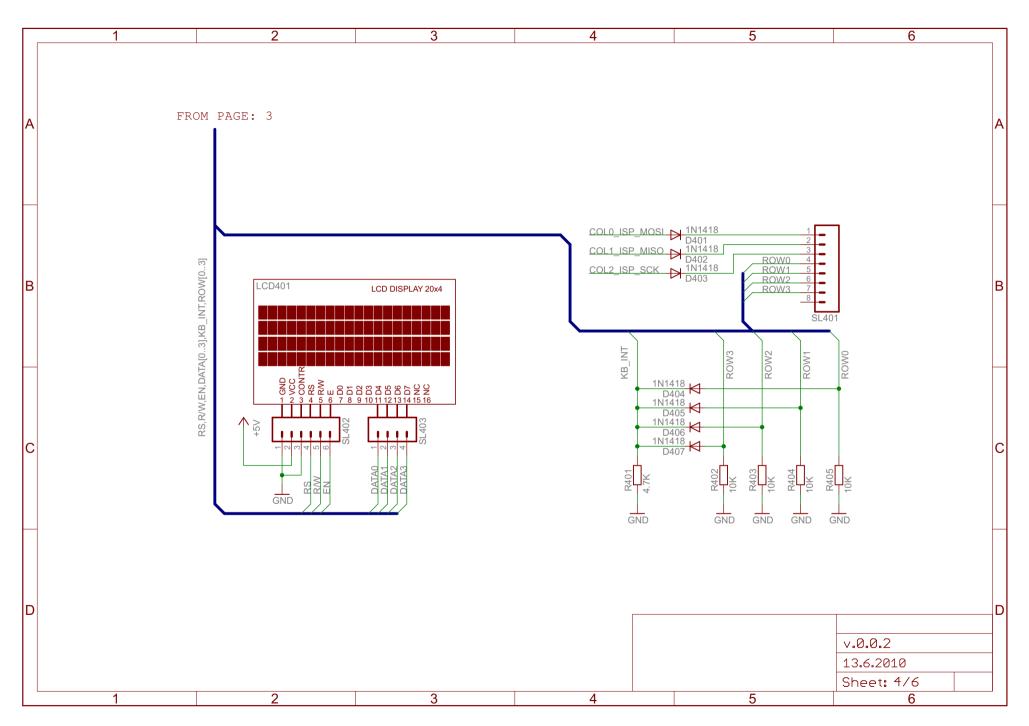GND   AGND

Power Supply
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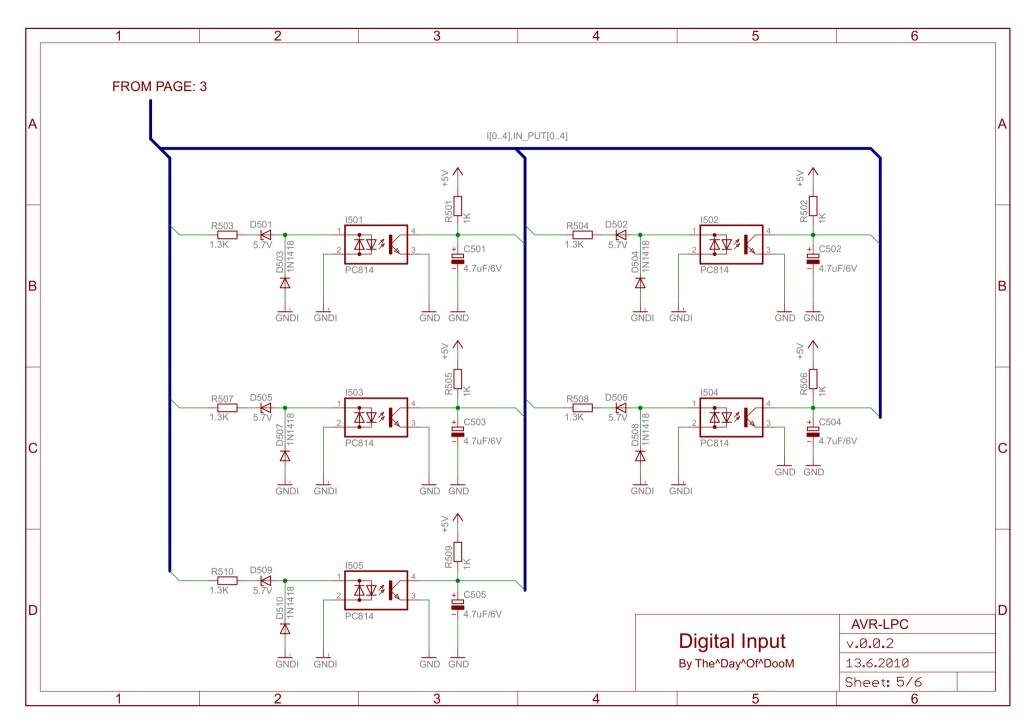
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AVR-LPC

+5V
R301
10K
C301
100nF/63V
GND

ISP_RESET

9 RESET
12 XTAL2
13 XTAL1

Q301
16MHz
C302 27pF
C303 27pF
GND GND

AREF 32 AREF
AVCC 30 AVCC
31 GND

+5V
10 VCC
11 GND
GND

C305
100nF/63V
GND

(ADC7)PA7 33 R/W
(ADC6)PA6 34 RS
(ADC5)PA5 35 AIN_PUT0
(ADC4)PA4 36 IN_PUT4
(ADC3)PA3 37 IN_PUT3
(ADC2)PA2 38 IN_PUT2
(ADC1)PA1 39 IN_PUT1
(ADC0)PA0 40 IN_PUT0

(SCK)PB7 8 COL2_ISP_SCK
(MISO)PB6 7 COL1_ISP_MISO
(MOSI)PB5 6 COL0_ISP_MOSI
(SS)PB4 5 OUT_PUT4
(AIN1/OC0)PB3 4 OUT_PUT3
(AIN0/INT2)PB2 3 OUT_PUT2
(T1)PB1 2 OUT_PUT1
(T0/XCK)PB0 1 OUT_PUT0

(TOSC2)PC7 29 38.768KHz
(TOSC1)PC6 28 Q302
(TDI)PC5 27 EN
(TDO)PC4 26 DATA0
(TMS)PC3 25 DATA1
(TCK)PC2 24 DATA2
(SDA)PC1 23 SDA
(SCL)PC0 22 SCL

(OC2)PD7 21 DATA3
(ICP)PD6 20 ROW3
(OC1A)PD5 19 ROW2
(OC1B)PD4 18 ROW1
(INT1)PD3 17 ROW0
(INT0)PD2 16 KB_INT
(TXD)PD1 15 LPC_RXD
(RXD)PD0 14 LPC_TXD

MEGA32-P

SL301
1 COL0_ISP_MOSI
2 COL1_ISP_MISO
3 COL2_ISP_SCK
4 ISP_RESET
5
6
+5V
GND

+5V
R305 *
SCL

+5V
R306 *
SDA

LM358MN
IC301B
7
6
5
+
-

51K
R302

IC301A
LM358MN
1
2
3
4
+
-
8
+12V
AI0

C304
100nF/63V
AGND

51K
R304
AGND

AGND

500
R303
AGND

IC302
C306 1 C1+   VCC 16 +5V
1uF/16V 3 C1-   GND 15 GND
C309 4 C2+   V+ 2
1uF/16V 5 C2-   V- 6

C307 1uF/16V
C310 1uF/16V
C308 1uF/16V
GND

11 T1IN   T1OUT 14 SEND_TO_PC
10 T2IN   T2OUT 7
12 R1OUT R1IN 13 RECIVE_FROM_PC
9 R2OUT R2IN 8

MAX232

D-SUB9-H3R09RA
X301-1
X301-2
X301-3
X301-4
X301-5
X301-6
X301-7
X301-8
X301-9
GND

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FROM PAGE: 3

RS,R/W,EN,DATA[0..3],KB_INT,ROW[0..3]

LCD401   LCD DISPLAY 20x4

GND VCC CONTR RS R/W E D0 D1 D2 D3 D4 D5 D6 D7 NC NC
1   2   3   4 5   6 7 8 9 10 11 12 13 14 15 16

SL402   SL403

+5V

1 2 3 4 5 6   1 2 3 4

GND   RS R/W EN   DATA0 DATA1 DATA2 DATA3

COL0_ISP_MOSI ▷| 1N1418
                   D401
COL1_ISP_MISO ▷| 1N1418
                   D402   ROW0
COL2_ISP_SCK   ▷| 1N1418   ROW1
                   D403   ROW2
                                   ROW3

1
2
3
4
5
6
7
8

SL401

KB_INT   ROW3 ROW2 ROW1 ROW0

        1N1418 ◁|
        D404
        1N1418 ◁|
        D405
        1N1418 ◁|
        D406
        1N1418 ◁|
        D407

R401   R402 R403 R404 R405
4.7K   10K   10K   10K   10K

GND   GND   GND   GND   GND

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I[0..4],IN_PUT[0..4]

R503 1.3K D501 5.7V D503 1N1418 I501 PC814 R501 +5V 1K C501 4.7uF/6V GNDI GNDI GND GND

R504 1.3K D502 5.7V D504 1N1418 I502 PC814 R502 +5V 1K C502 4.7uF/6V GNDI GNDI GND GND

R507 1.3K D505 5.7V D507 1N1418 I503 PC814 R505 +5V 1K C503 4.7uF/6V GNDI GNDI GND GND

R508 1.3K D506 5.7V D508 1N1418 I504 PC814 R506 +5V 1K C504 4.7uF/6V GNDI GNDI GND GND

R510 1.3K D509 5.7V D510 1N1418 I505 PC814 R509 +5V 1K C505 4.7uF/6V GNDI GNDI GND GND

AVR-LPC

Digital Input

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OUT_PUT[0..9]

OUT_PUT0   R601   RD0
            1K
OUT_PUT1   R602   RD1
            1K
OUT_PUT2   R603   RD2
            1K
OUT_PUT3   R604   RD3
            1K
OUT_PUT4   R605   RD4
            1K

RD[0..4]   GND

IC601

RD4 1 IN1   OUT1 16 RELAY4
RD3 2 IN2   OUT2 15 RELAY3
     3 IN3   OUT3 14
RD2 4 IN4   OUT4 13 RELAY2
     5 IN5   OUT5 12
RD1 6 IN6   OUT6 11 RELAY1
RD0 7 IN7   OUT7 10 RELAY0
     8 GND   DIODE 9

ULN2003A

+15V

+15V   K601 351
            K602 351
            K603 351
            K604 351
            K605 351

RELAY0 Q0 Q1 RELAY1 Q2 Q3 RELAY2 Q4 Q5 RELAY3 Q6 Q7 RELAY4 Q8 Q9

RELAY[0..4],Q[0..9]

Digital Output
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