# Level Converter

**IC2A** 74LVC244

| | | |
|---|---|---|
| A1 2 | Y1 | 18 LCD_CS |
| A2 4 | Y2 | 16 SDI |
| A3 6 | Y3 | 14 LCD_LED |
| A4 8 | Y4 | 12 LCD_RST |
| G 1 | | |

GND

R6 100K  R7 100K
R8 100K
+3V3  +3V3  +3V3

GND GND

A-LCD_CS
A-SDI
A-LCD_LED
A-LCD_RST

A-DC

**IC2B** 74LVC244

| | | |
|---|---|---|
| A1 11 | Y1 | 9 SCL |
| A2 13 | Y2 | 7 ADS_CS |
| A3 15 | Y3 | 5 ADS_BUSY |
| A4 17 | Y4 | 3 ADS_IRQ |
| G 19 | | |

GND

R10 100K  R9 100K
R11 100K
+3V3  +3V3

GND GND

A-SCL
A-ADS_CS
A-ADS_BUSY
A-ADS_IRQ

A-DC

# Connectors

**CON2**
GND

**CON1**

| GND 2 | | A-LCD_RST |
| VCC 4 | 3 | A-SDI |
| 6 | 5 | A-SCL |
| 8 | 7 | ADS_BUSY |
| 10 | 9 | ADS_AUX |
| 12 | 11 | ADS_VREF |
| 14 | 13 | |
| 16 | 15 | |

GND  VCC
VCC  GND

A-LCD_LED
A-LCD_CS
SDO
A-ADS_CS
ADS_IRQ
ADS_VBAT

A-DC

Logo

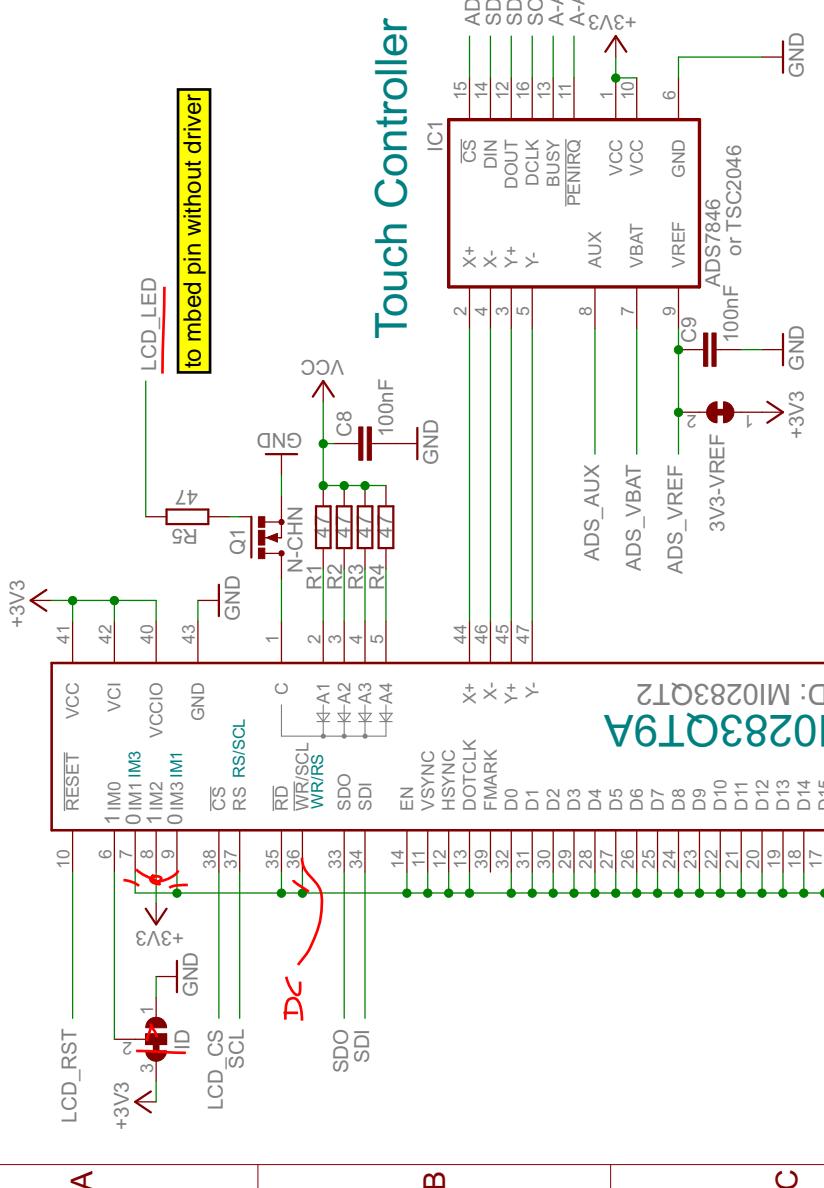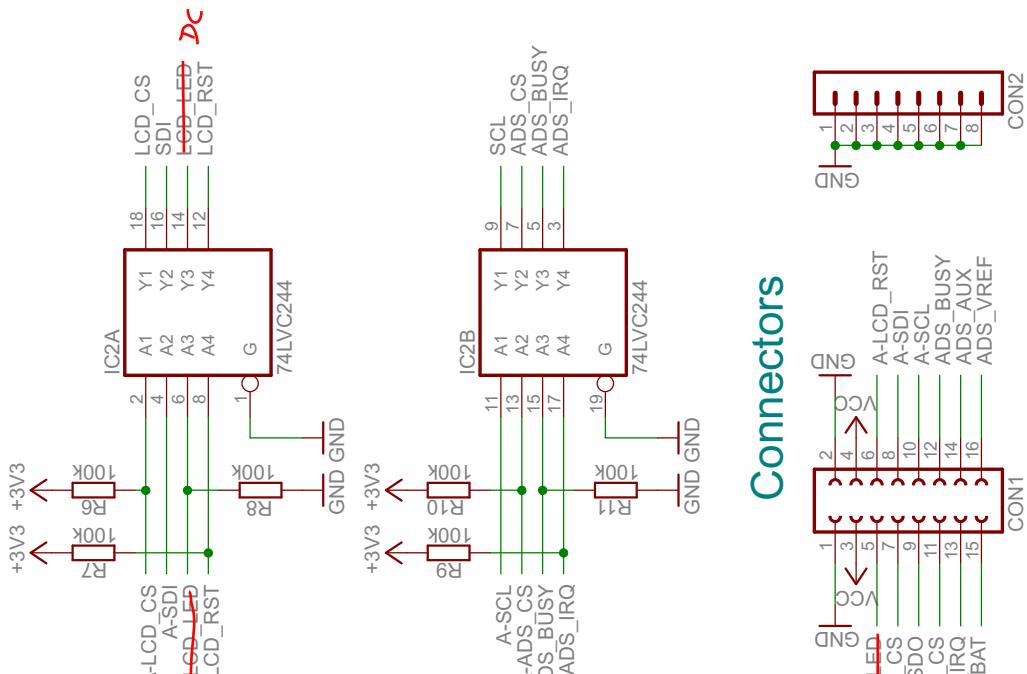OSHW LOGO

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Designed by Andreas Watterott (Watterott electronic)

MI0283QT_v12
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Sheet: 1/1

X4  X3  X2  X1

# Touch Controller

**IC1** ADS7846 or TSC2046

| | | |
|---|---|---|
| CS 15 | | ADS_CS |
| DIN 14 | | SDI |
| DOUT 12 | | SDO |
| DCLK 16 | | SCL |
| BUSY 13 | | A-ADS_BUSY |
| PENIRQ 11 | | A-ADS_IRQ |
| VCC 1 | | +3V3 |
| VCC 10 | | |
| GND 6 | | GND |
| X+ 2 | | ADS_AUX |
| X- 4 | | |
| Y+ 3 | | |
| Y- 5 | | |
| AUX 8 | | ADS_AUX |
| VBAT 7 | | ADS_VBAT |
| VREF 9 | | ADS_VREF |

C9 100nF
GND

3V3-VREF  +3V3

MBED Patch

LCD_LED

to mbed pin without driver

# Display

**LCD: MI0283QT2** MI0283QT9A

| | | |
|---|---|---|
| RESET 10 | VCC 41 | +3V3 |
| IM0 6 | VCI 42 | |
| IM1 7 | VCCIO 40 | |
| IM2 8 | GND 43 | GND |
| IM3 9 | | |
| CS 38 | C 1 | |
| RS RS/SCL 37 | A-A1 2 | |
| RD 35 | A-A2 3 | |
| WR/SCL 36 | A-A3 4 | |
| SDO 33 | A-A4 5 | |
| SDI 34 | | |
| EN 14 | X+ 44 | |
| VSYNC 11 | X- 46 | |
| HSYNC 12 | Y+ 45 | |
| DOTCLK 13 | Y- 47 | |
| FMARK 39 | | |
| D0 32 | | |
| D1 31 | | |
| D2 30 | | |
| D3 29 | | |
| D4 28 | | |
| D5 27 | | |
| D6 26 | | |
| D7 25 | | |
| D8 24 | | |
| D9 23 | | |
| D10 22 | | |
| D11 21 | | |
| D12 20 | | |
| D13 19 | | |
| D14 18 | | |
| D15 17 | | |
| D16 16 | | |
| D17 15 | | |

+3V3

Q1 N-CHN
R5 47
R1 47  R2 47  R3 47  R4 47
C8 100nF
VCC
GND
GND

LCD_RST
+3V3
ID
GND
LCD_CS
SCL
SDO
SDI

GND

U1 TS5204
VI VO
VCC-3V3
GND
C1 2uF  C2 2uF
C3 100nF
+3V3
GND
VCC

IC2P
VCC 20
GND 10
+3V3
GND

C4 100nF  C5 100nF  C6 100nF  C7 100nF
+3V3
GND