Level shift power

No levelshift
3.3V — R13 0R — VREF
Levelshift
VUSB — R14 0R —

Ext 3.3V
3.3V — R15 0R — VEXT
Ext 5V
VUSB — R16 0R —

I2C Level shift

No levelshift | Levelshift

3.3V
R3 10K
SCL — Q1 SSM3K16FU — SH_SCL
R4 10K — VREF
R9 0R

3.3V
R5 10K
SDA — Q2 SSM3K16FU — SH_SDA
R6 10K — VREF
R10 0R

GPIO Level shift

No levelshift | Levelshift

3.3V
R1 10K
GPIO4 — Q3 SSM3K16FU — SH_GPIO4
R2 10K — VREF
R11 0R

3.3V
R7 10K
GPIO5 — Q4 SSM3K16FU — SH_GPIO5
R8 10K — VREF
R12 0R

TinyPICO

VUSB
C1 100nF
GND

U1 TINYPICO

Pin	Name		Pin	Name
16	GPIO4/TOUCH0/ADC2CH0		17	3V3
4	GPIO5/SS		18	VUSB
15	GPIO14/TOUCH6/ADC2/CH6		20	VBAT
14	GPIO15/TOUCH3/ADC2CH3			
3	GPIO18/SCK		9	RESET
2	GPIO19/MISO			
6	GPIO21/SDA			
5	GPIO22/SCL			
1	GPIO23/MOSI			
11	GPIO25/DAC1/ADC2CH8			
12	GPIO26/DAC2/ADCCH9			
13	GPIO27/TOUCH7/ADC2CH7		19	GND
7	GPIO32/TOUCH9/ADC1CH4		10	GND
8	GPIO33/TOUCH8/ADC1CH5			

3.3V VUSB

GND

Level shifted connectors

VEXT
X4 QWIIC
GND 3V3
SH_SDA — SDA G1
SH_SCL — SCL G2 G2
GND

VEXT
J2
SH_GPIO4 — 1
SH_GPIO5 — 3
5 — NCPAD1
4 — 6 — NCPAD2
GND
GROVE-CONNECTOR-2PAD4UCON17312

tinypico_sensor_board
2021-11-01 19:53
Sheet: 1/1

2021-11-03 22:57 f=1.09 /Users/jonny/Developer/Bergdahl/tinypico_sensor_board/pcb/tinypico_sensor_board.sch (Sheet: 1/1)

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Bergdahl
2021-09-27

Ha'tak

QWIIC

VREF   VEXT

3V3 5V   3V3 5V

VREF 3V3 - VEXT 3V3

Grove

R10 R3

R5 R9

R11 Q4 R7

R1 R12

R13 R15

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2021-09-27

Ha'tak

QWIIC

VREF   VEXT

Grove

R10   R3

R5   R9

R11   R7

R1   R12

R13   R16

3V3 5V   3V3 5V

VREF 3V3 - VEXT 5V

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Bergdahl
2021-09-27

Ha'tak

QWIIC

R6 R10 Q1 R3
R5 Q2 R9 R4
R2 R11 Q4 R7
R1 Q3 R12 R8

VREF   VEXT

Grove

R13 R14 R15 R16

3V3 5V   3V3 5V

VREF 5V - VEXT 5V