

Arduino

Basic Connections



Sumário

1 Apresentação	7	2.12 016	14
		2.13 017	14
		2.14 018	15
2 Circuitos	8	2.15 019	15
2.1 005	2.16 020	16
2.2 006	2.17 021	16
2.3 007	2.18 022	17
2.4 008	2.19 023	17
2.5 009	2.20 024	18
2.6 010	2.21 025	18
2.7 011	2.22 026	19
2.8 012	2.23 027	19
2.9 013	2.24 028	20
2.10 014	2.25 029	20
2.11 015	2.26 030	21

2.27 031	21	2.42 046	29
2.28 032	22	2.43 047	29
2.29 033	22	2.44 048	30
2.30 034	23	2.45 049	31
2.31 035	23	2.46 050	31
2.32 036	24	2.47 051	32
2.33 037	24	2.48 052	32
2.34 038	25	2.49 053	33
2.35 039	25	2.50 054	33
2.36 040	26	2.51 055	34
2.37 041	26	2.52 056	34
2.38 042	27	2.53 057	35
2.39 043	27	2.54 058	36
2.40 044	28	2.55 059	37
2.41 045	28	2.56 060	37

2.57 061	38	2.72 076	46
2.58 062	38	2.73 077	47
2.59 063	39	2.74 078	48
2.60 064	39	2.75 079	49
2.61 065	40	2.76 080	49
2.62 066	40	2.77 081	50
2.63 067	41	2.78 082	50
2.64 068	41	2.79 083	51
2.65 069	42	2.80 084	51
2.66 070	42	2.81 085	52
2.67 071	43	2.82 086	53
2.68 072	43	2.83 087	54
2.69 073	44	2.84 088	54
2.70 074	44	2.85 089	55
2.71 075	45	2.86 090	55

2.87 091	56	2.102 06	63
2.88 092	56	2.103 07	64
2.89 093	57	2.104 08	64
2.90 094	57	2.105 09	65
2.91 095	58	2.106 10	65
2.92 096	58	2.107 11	66
2.93 097	59	2.108 12	66
2.94 098	59	2.109 13	67
2.95 099	60	2.110 14	67
2.96 100	60	2.111 15	68
2.97 101	61	2.112 16	68
2.98 102	61	2.113 17	69
2.99 103	62	2.114 18	69
2.100 04	62	2.115 19	70
2.101 05	63	2.116 20	70

2.117	21	71	2.120	24	72
2.118	22	71	2.121	25	74
2.119	23	72	2.122	26	74

1 Apresentação



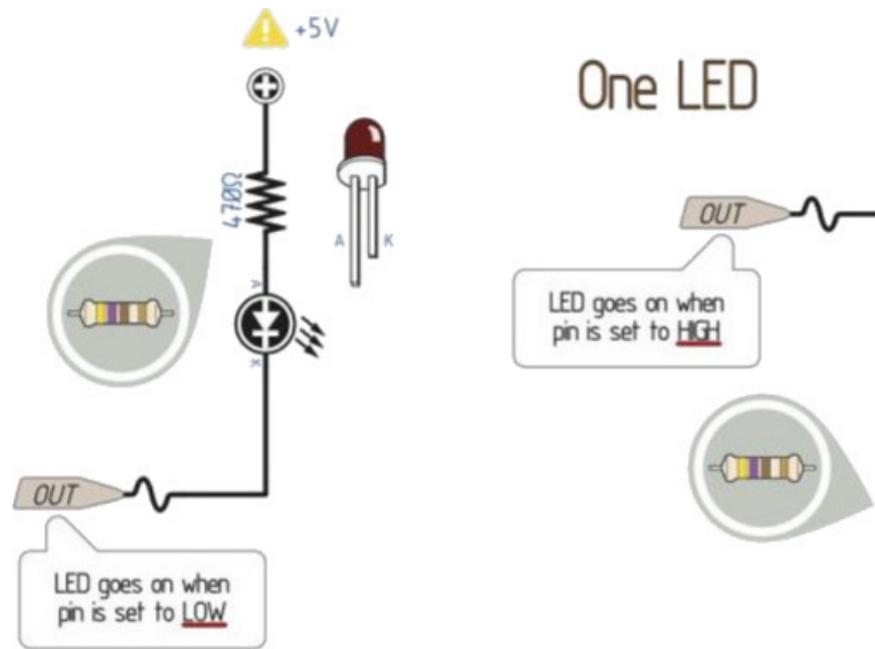
BASIC CONNECTIONS



17 JUL 2014
ver 3 rev 0

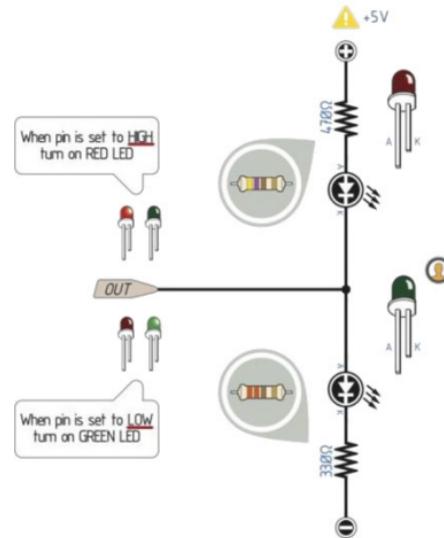
2 Circuitos

2.1 005



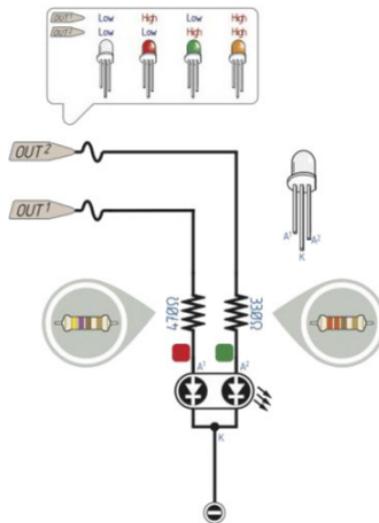
2.2 006

Two LEDs



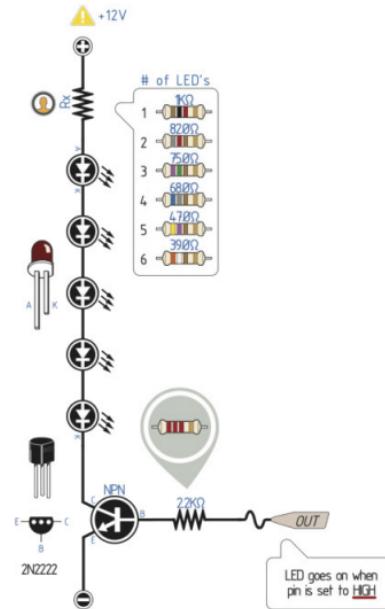
2.3 007

Bicolor LED



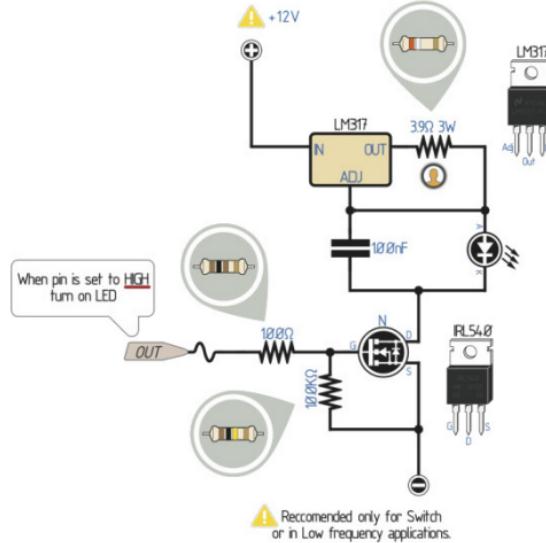
2.4 008

Cluster



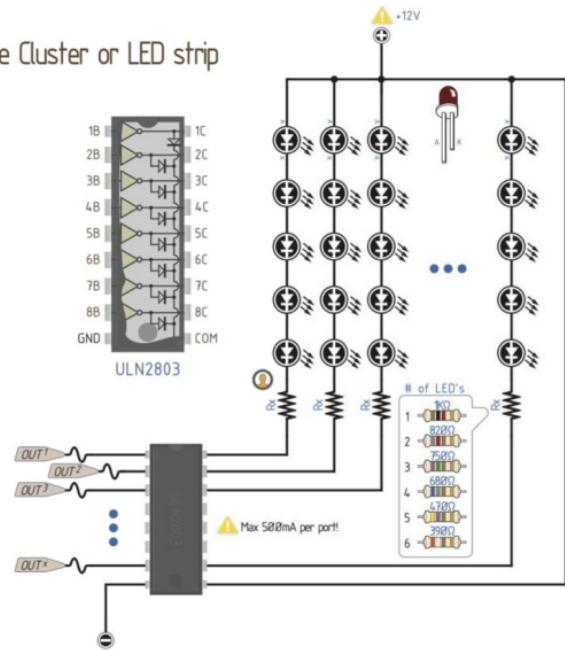
2.5 009

Luxeon

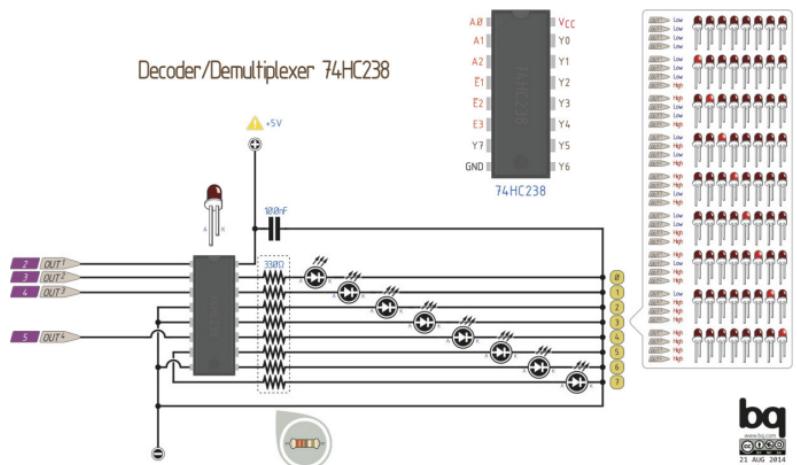


2.6 010

Multiple Cluster or LED strip

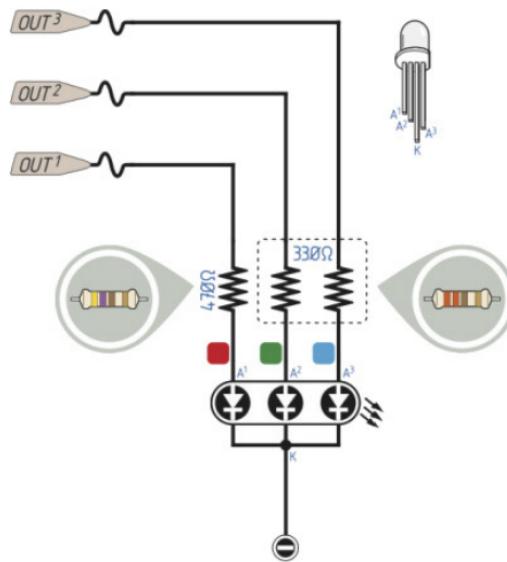


2.7 011

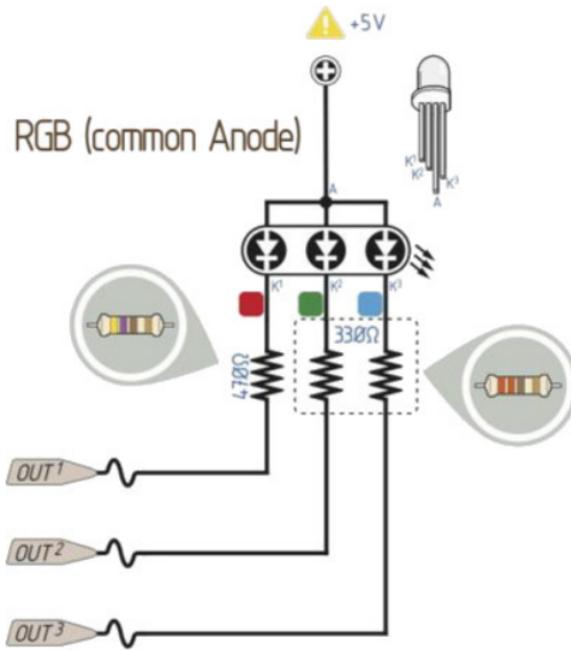


2.8 012

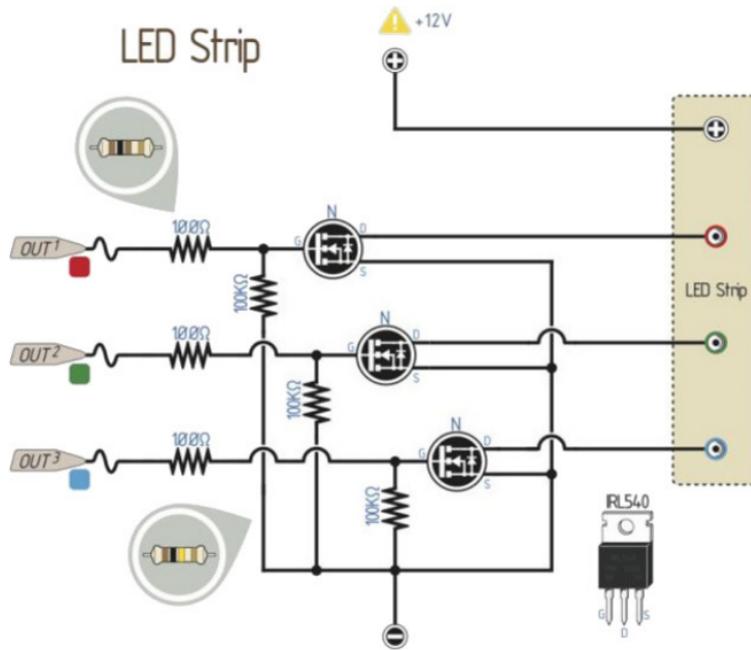
RGB (common Cathode)



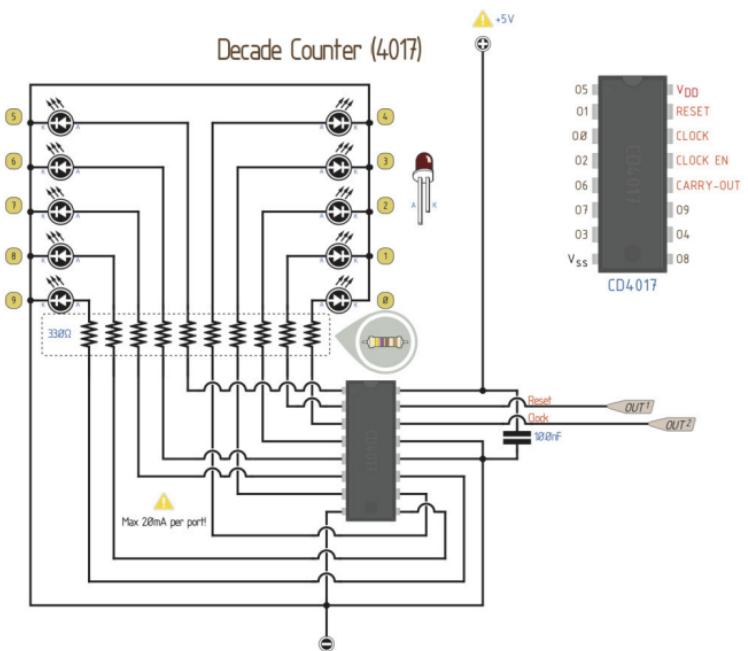
2.9 013



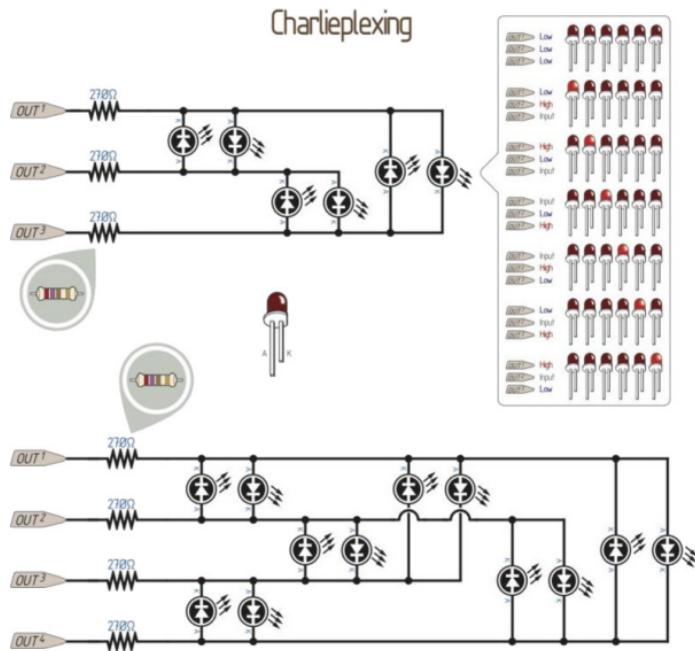
2.10 014



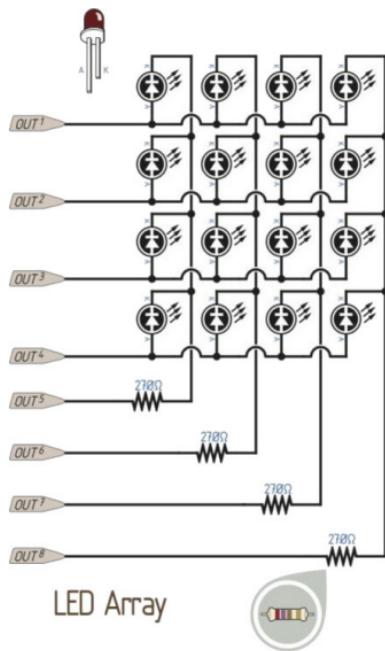
2.11 015



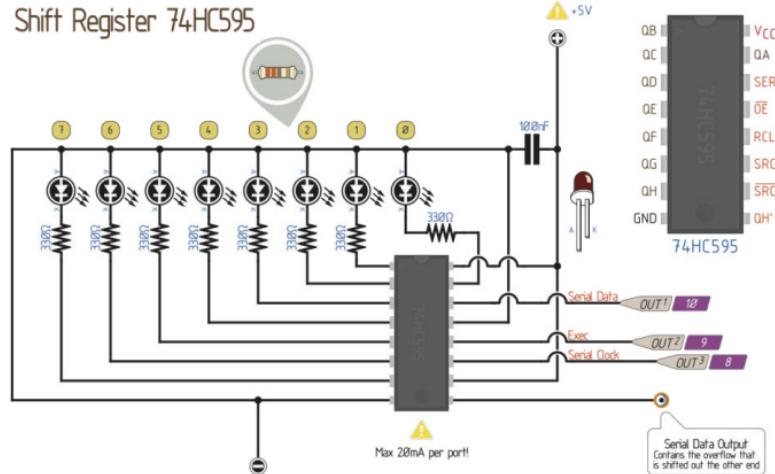
2.12 016



2.13 017

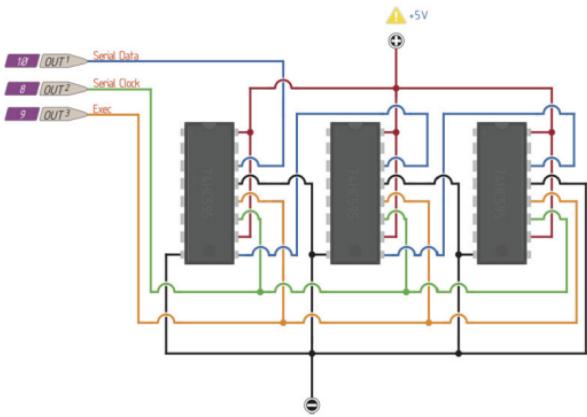


2.14 018



2.15 019

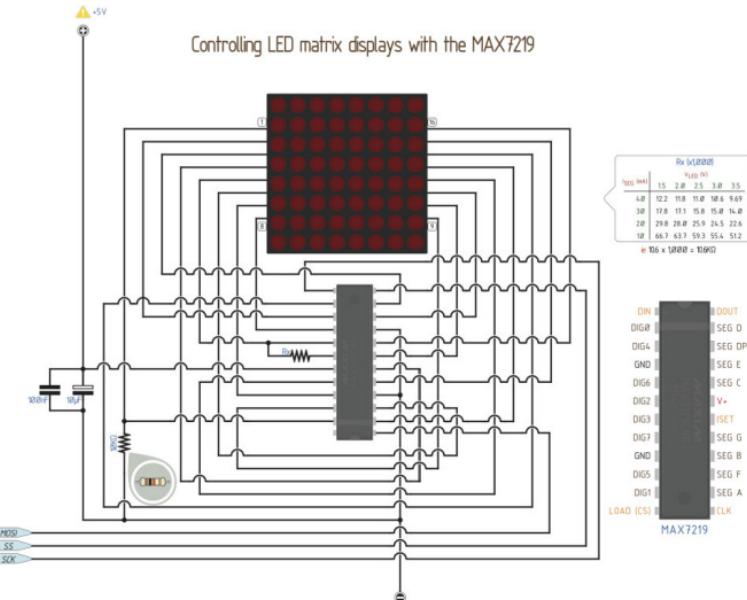
Connect multiple 74HC595



2.16 020

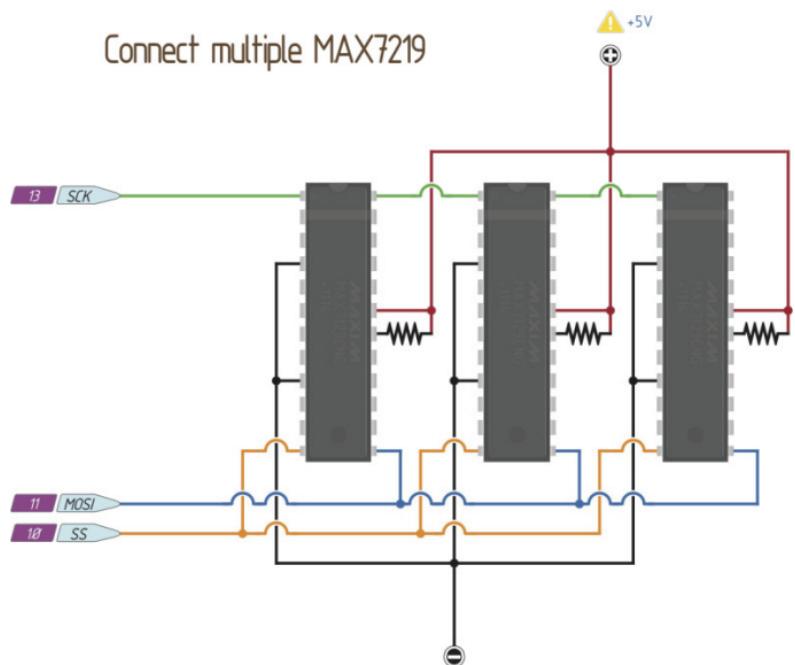


Controlling LED matrix displays with the MAX7219

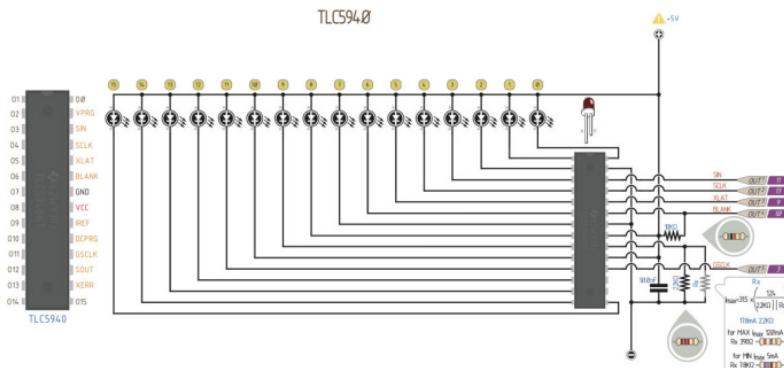


2.17 021

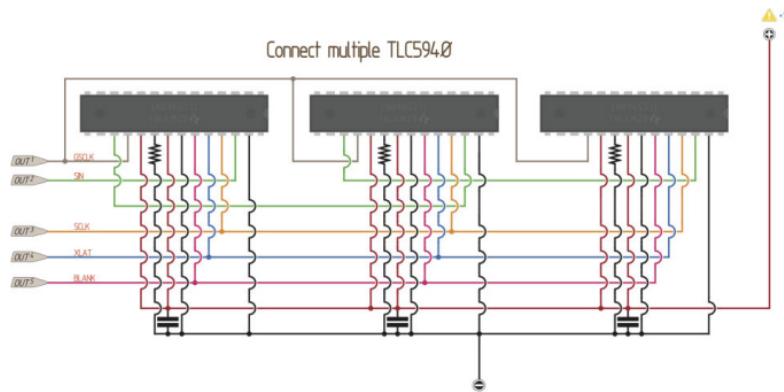
Connect multiple MAX7219



2.18 022

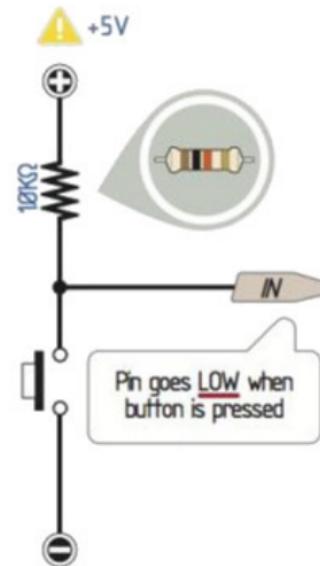


2.19 023



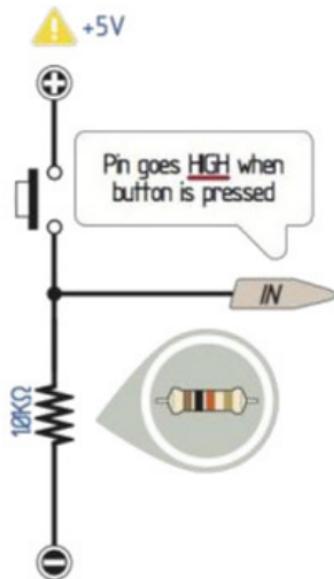
2.20 024

Pushbutton to GND



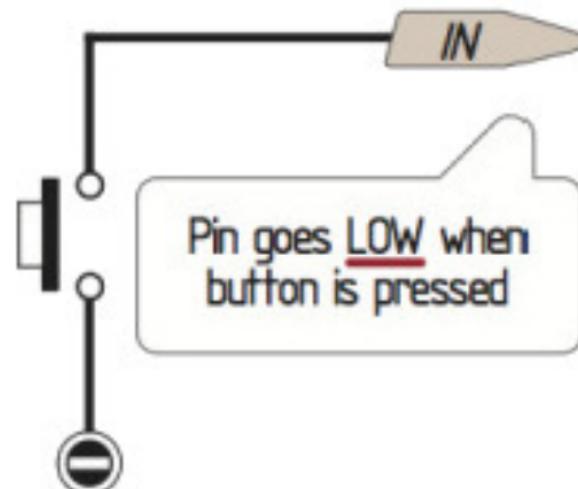
2.21 025

Pushbutton to 5V



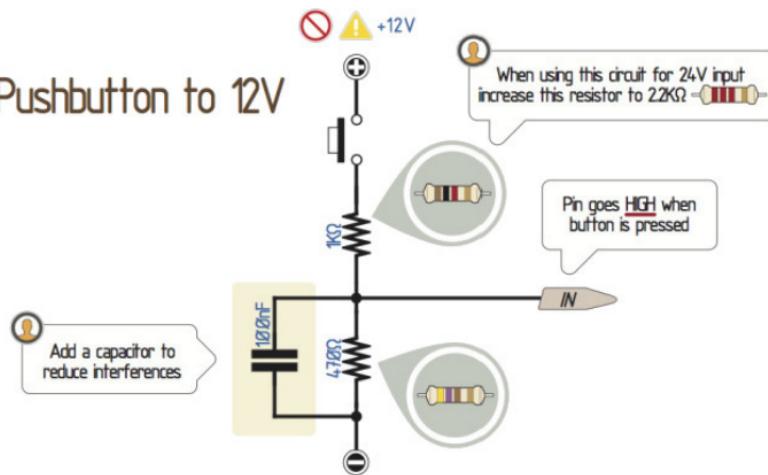
2.22 026

Using Internal pullup



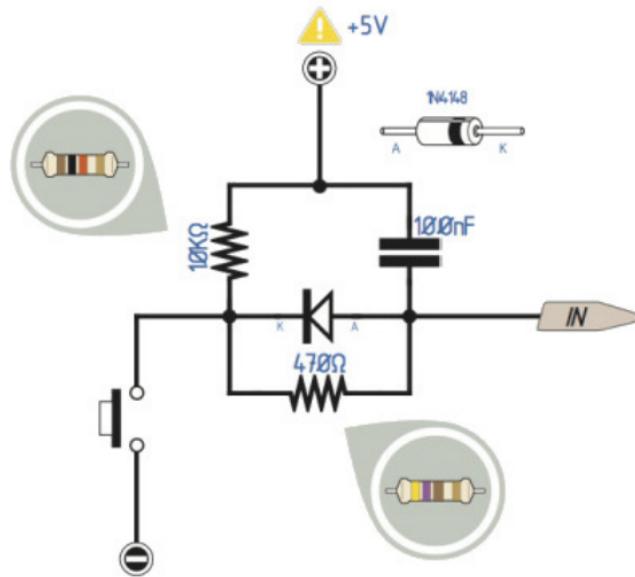
2.23 027

Pushbutton to 12V

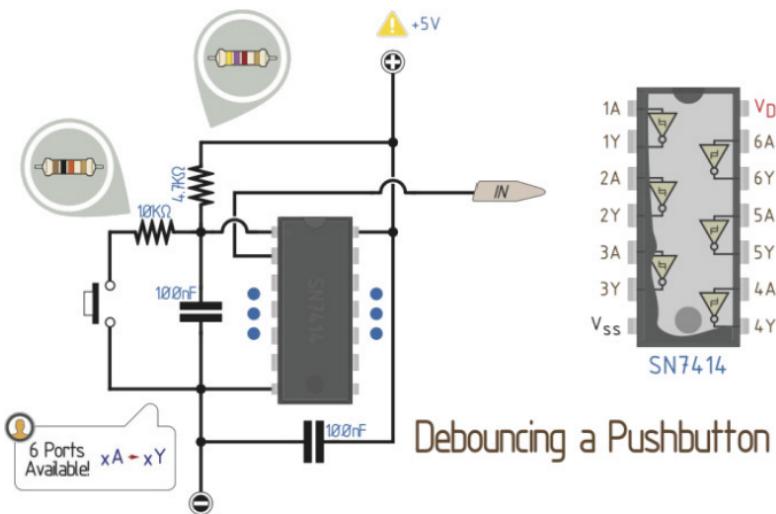


2.24 028

Simple Debouncer

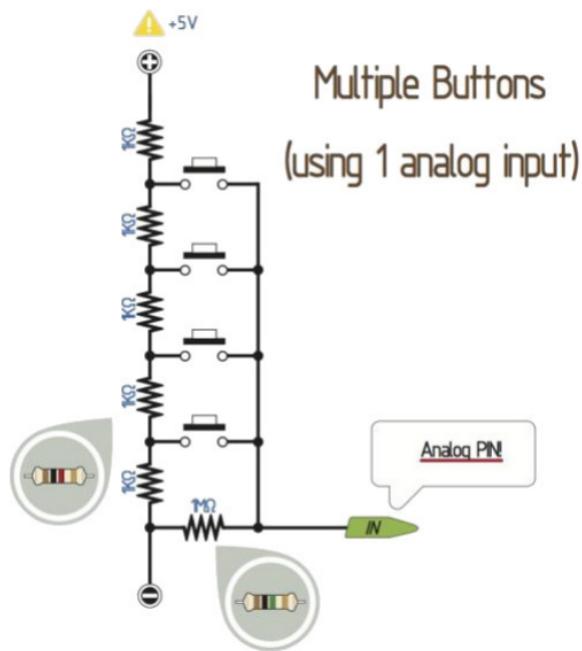


2.25 029



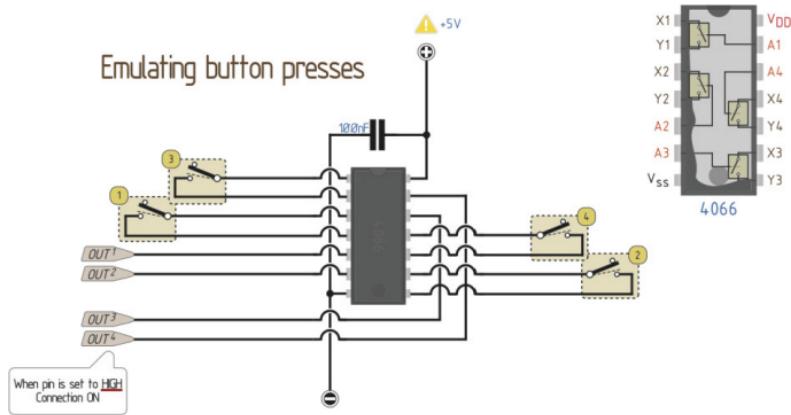
Debouncing a Pushbutton

2.26 030



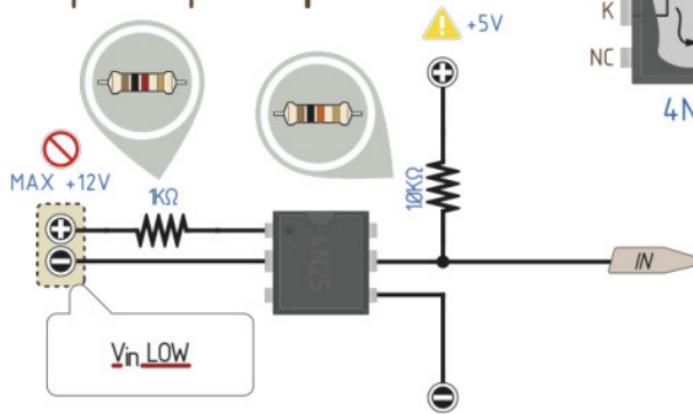
Multiple Buttons
(using 1 analog input)

2.27 031



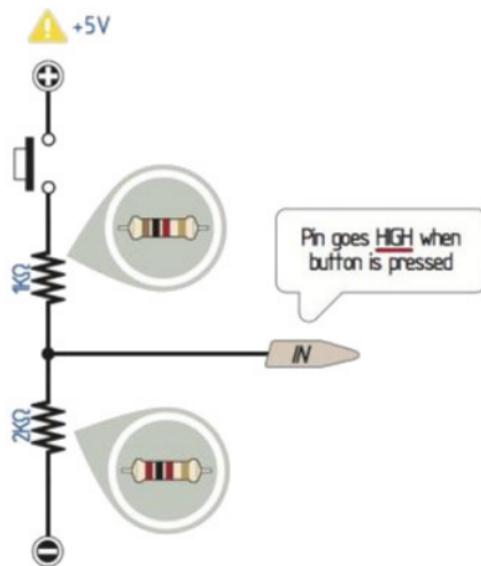
2.28 032

Optocoupled Input



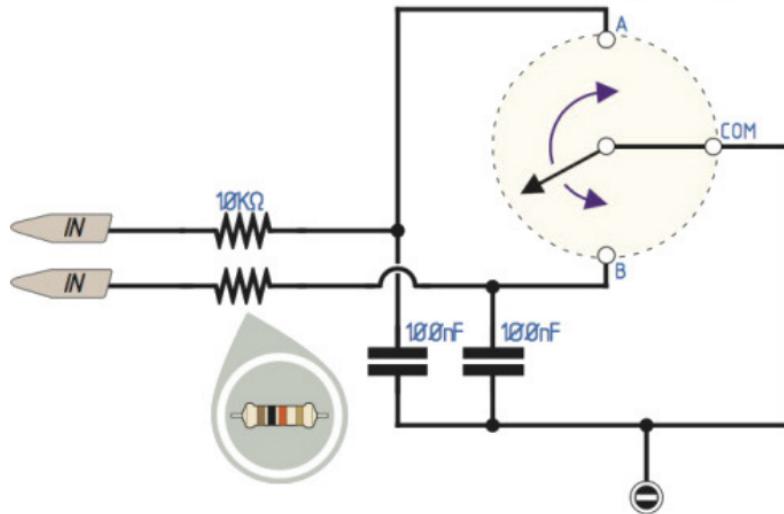
2.29 033

Pushbutton to 3V3 tolerant pins

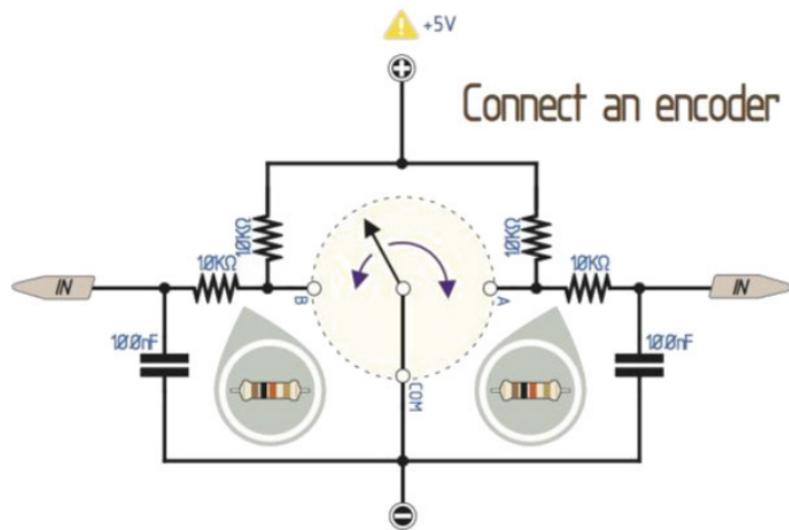


2.30 034

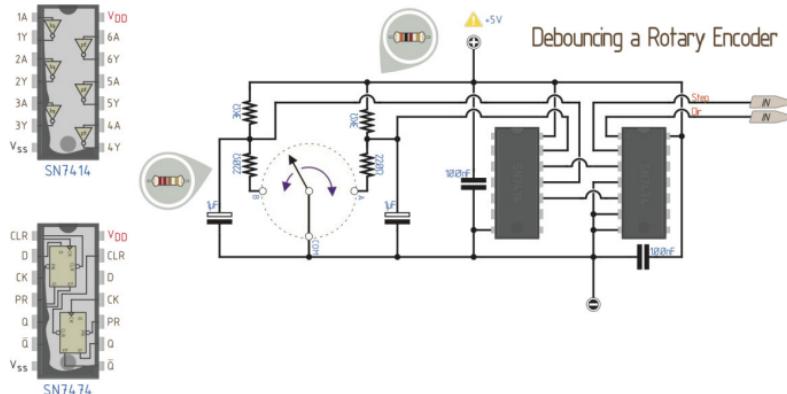
Connect an encoder (Internal pullup)



2.31 035

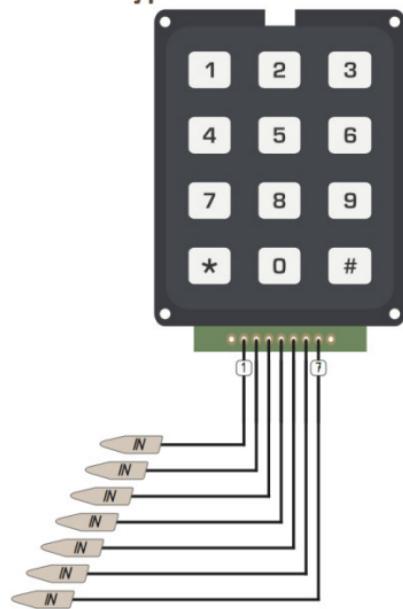


2.32 036

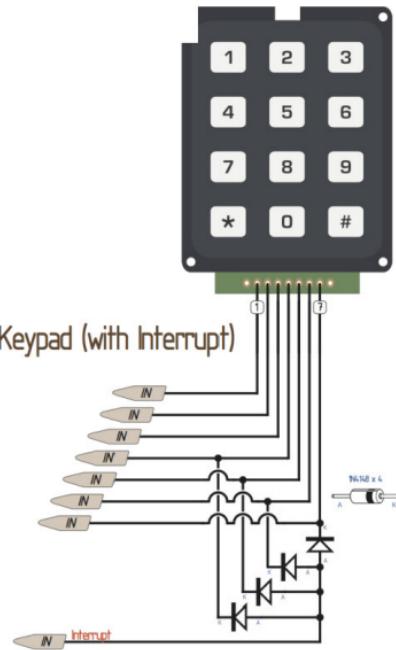


2.33 037

Connect a Keypad

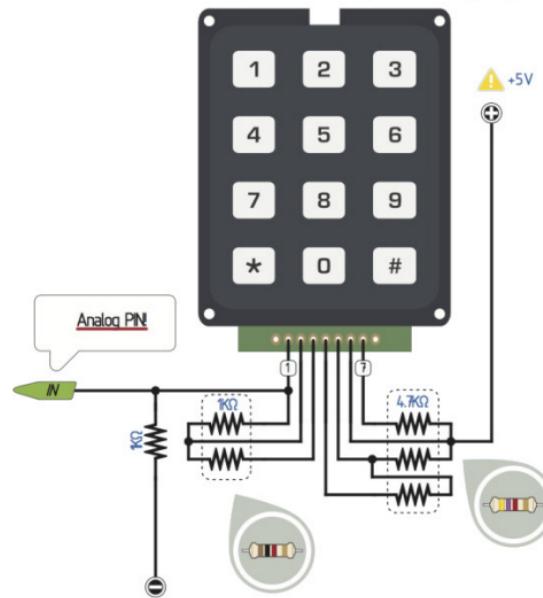
**2.34 038**

Connect a Keypad (with Interrupt)



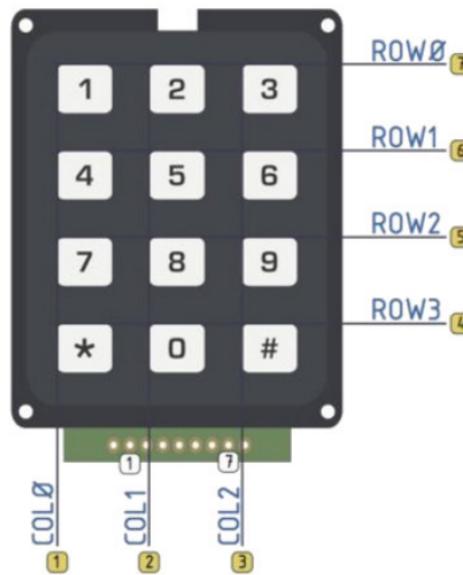
2.35 039

Connect a Keypad (using 1 analog input)



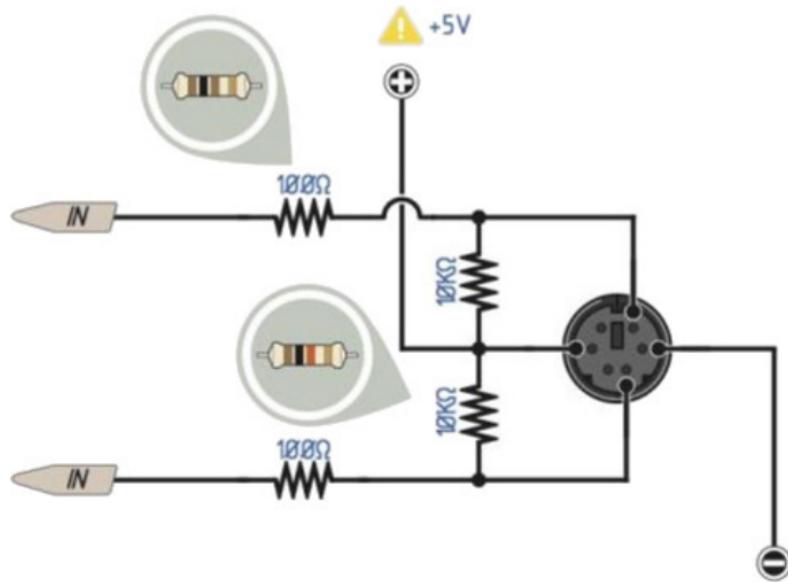
2.36 040

Keypad



2.37 041

Connect a PS2 device



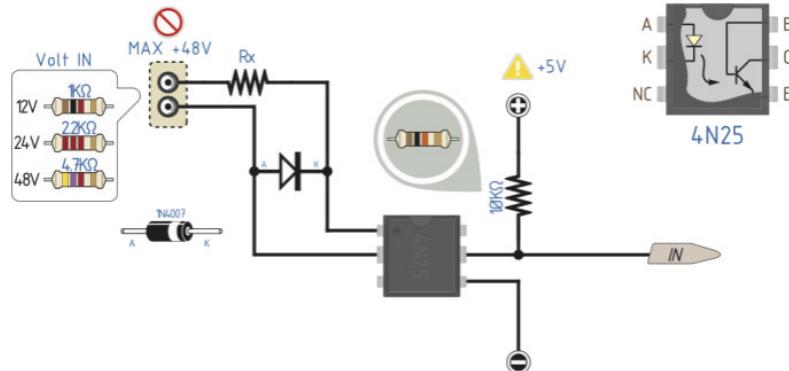
2.38 042

Keyboard scan codes



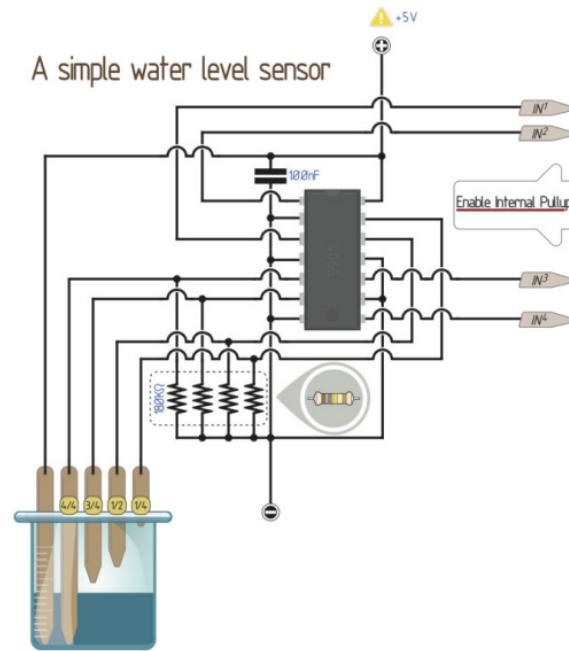
2.39 043

Optocoupled Input (AC Input)

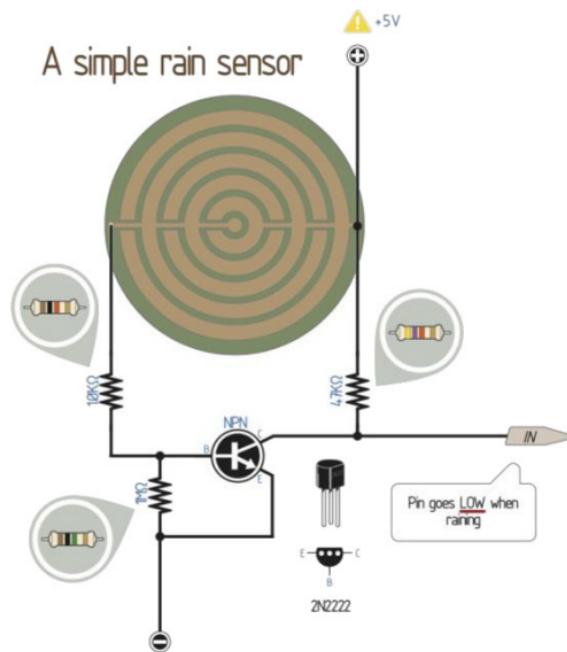


2.40 044

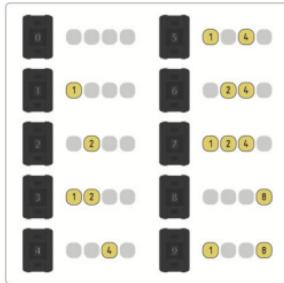
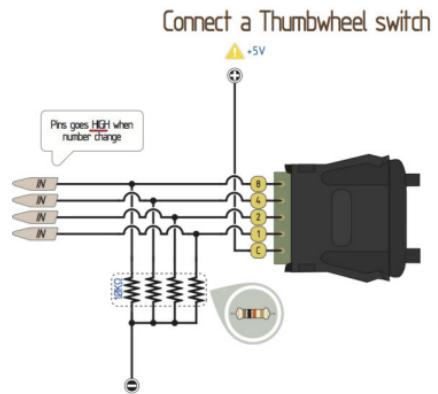
A simple water level sensor



2.41 045

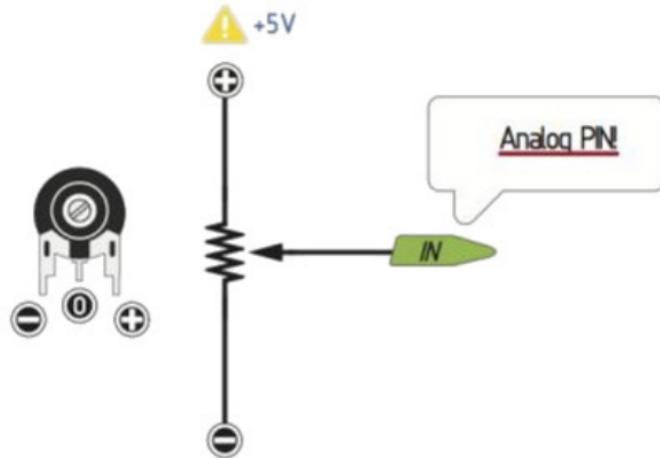


2.42 046



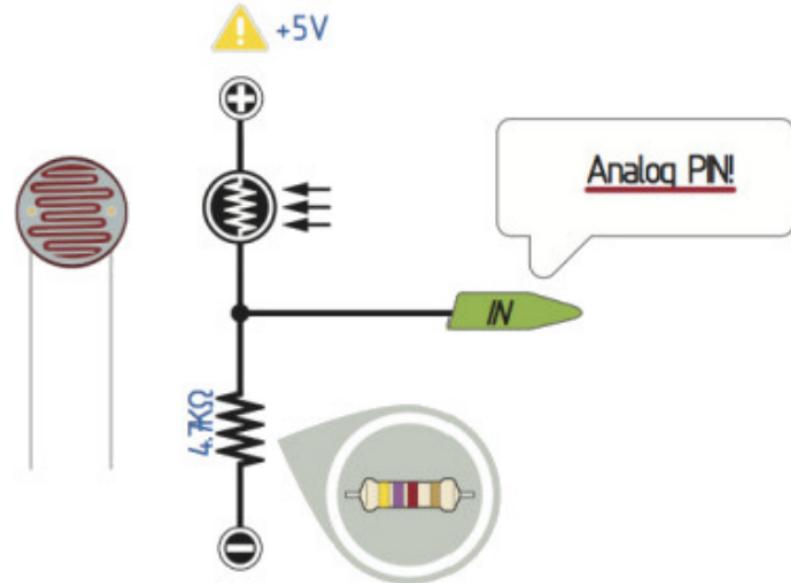
2.43 047

Connect a Potentiometer (or Trimmer)



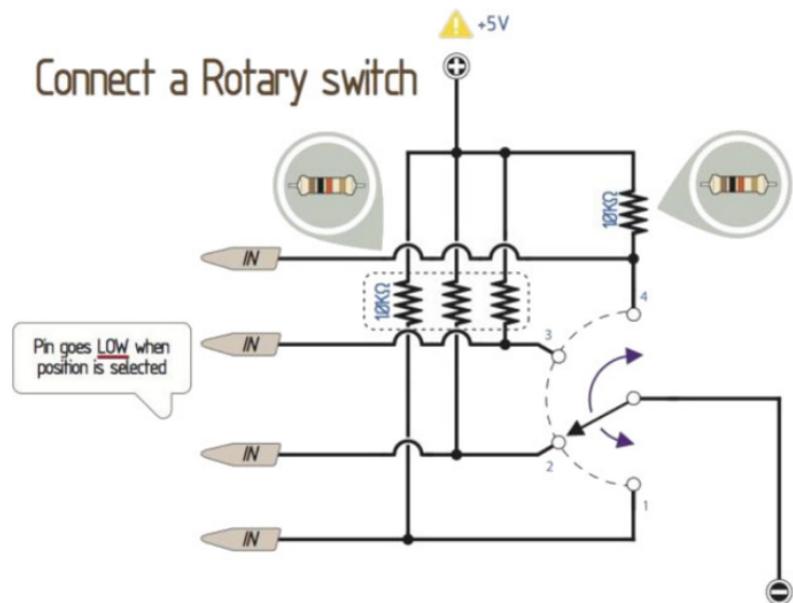
2.44 048

Connect a Photoresistor



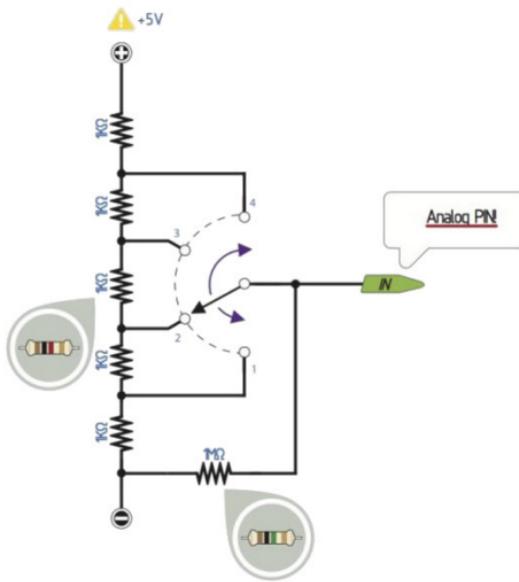
2.45 049

⚠ +5V
Connect a Rotary switch

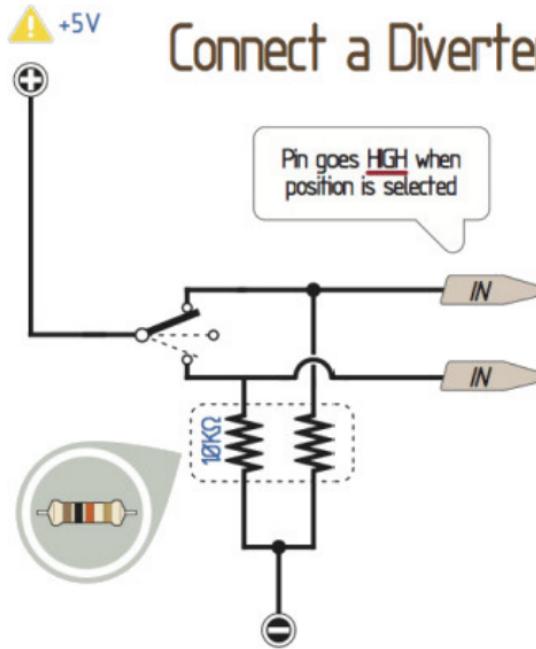


2.46 050

Connect a Rotary switch (using 1 analog input)

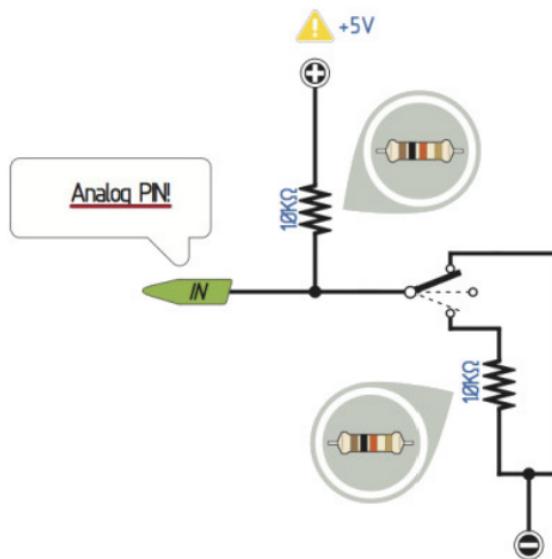
**2.47 051**

Connect a Diverter

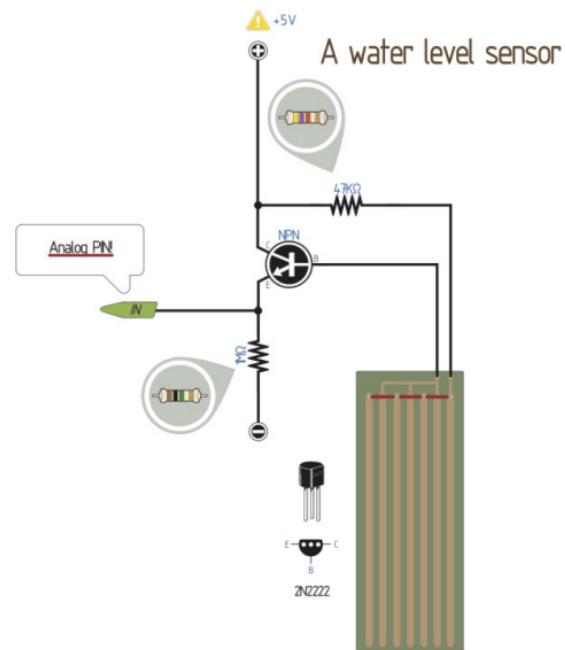


2.48 052

Connect a Diverter (using 1 analog input)

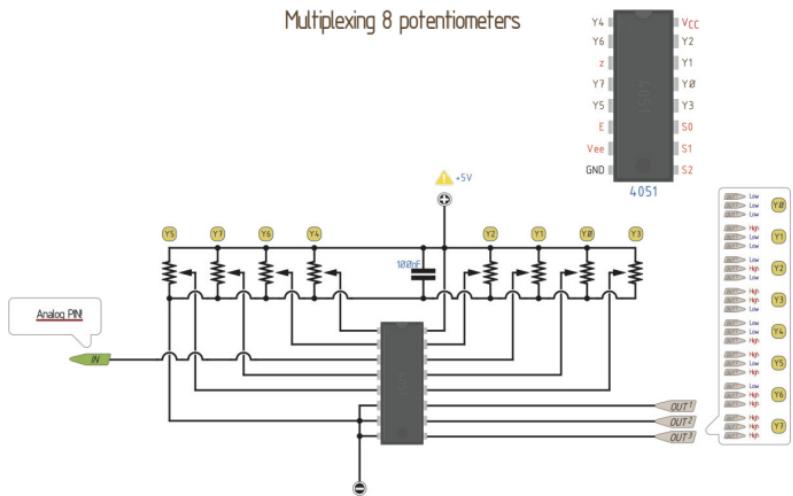


2.49 053

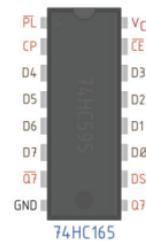
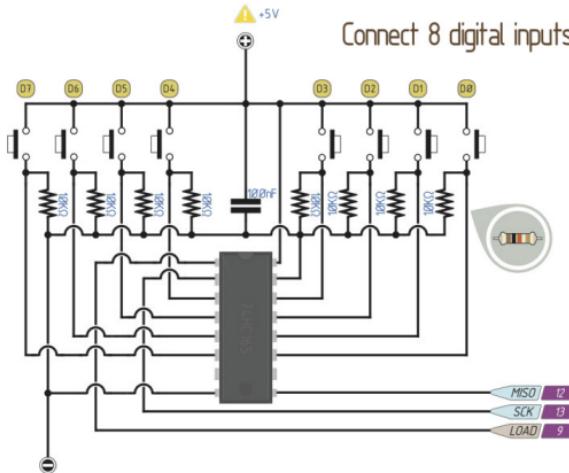


2.50 054

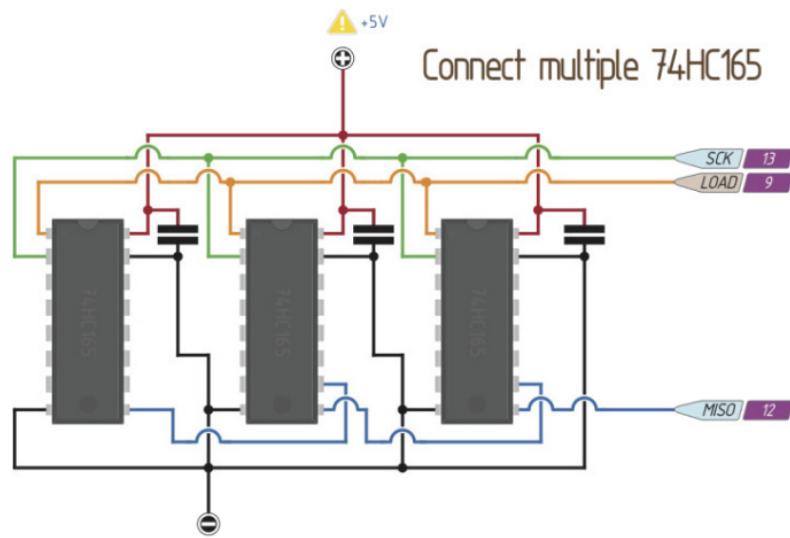
Multiplexing 8 potentiometers

**2.51 055**

Connect 8 digital inputs via SPI

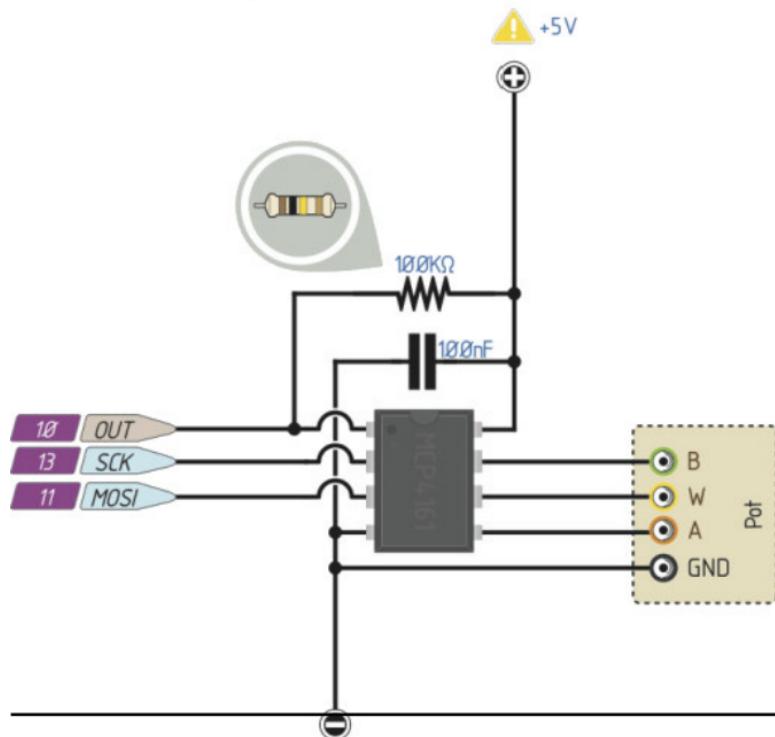


2.52 056

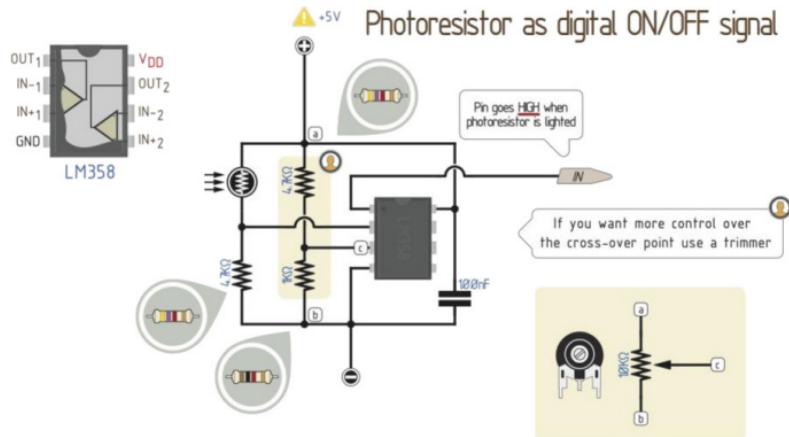


2.53 057

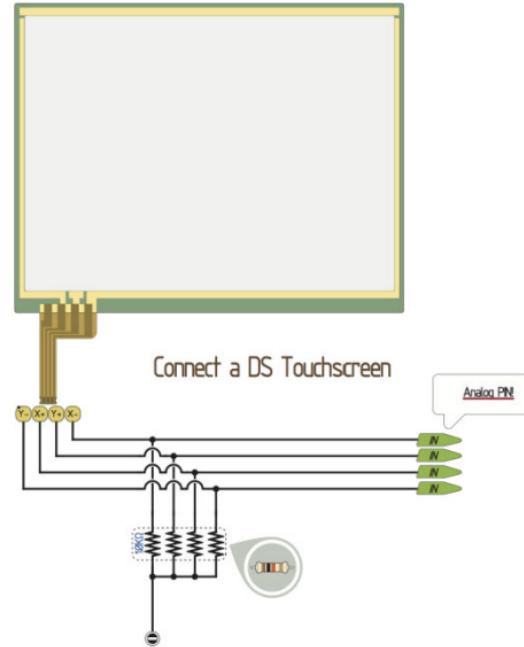
Connect a Digital Potentiometer (MCP4161)



2.54 058

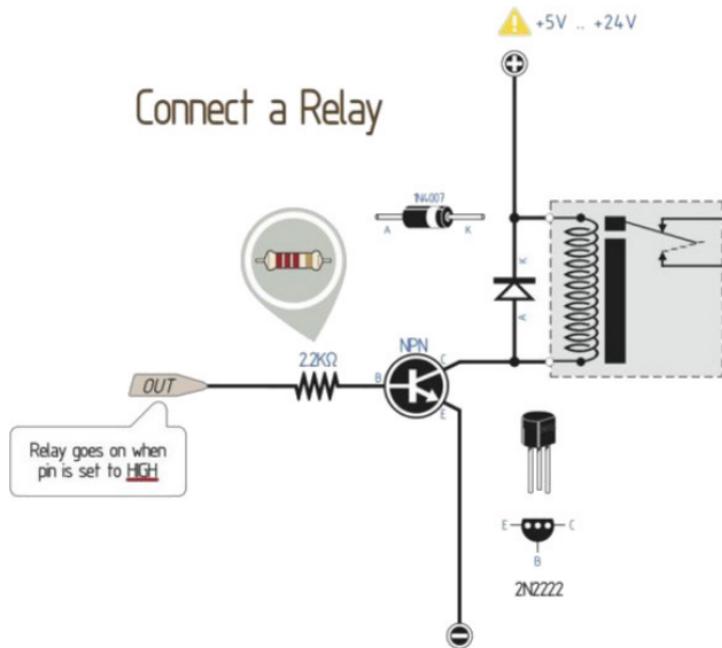


2.55 059



2.56 060

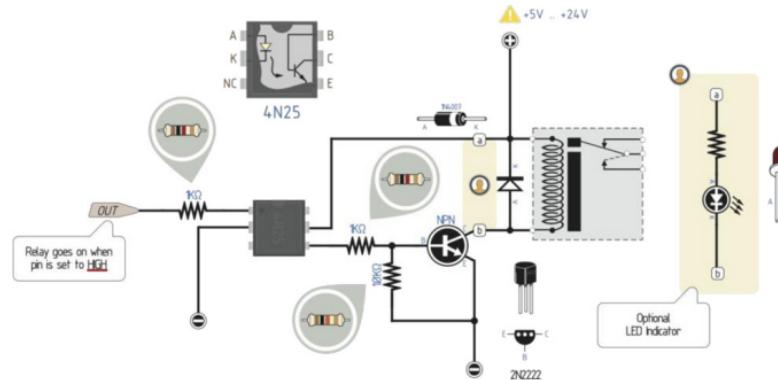
Connect a Relay



Relay goes on when
pin is set to HIGH

2.57 061

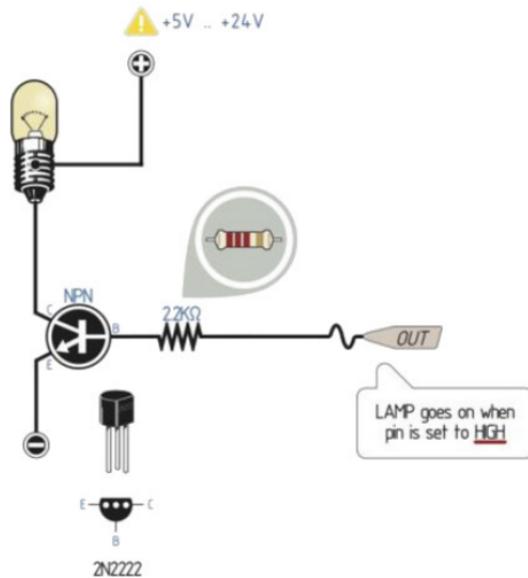
Connect a Relay (Optoisolated)



Relay goes on when
pin is set to HIGH

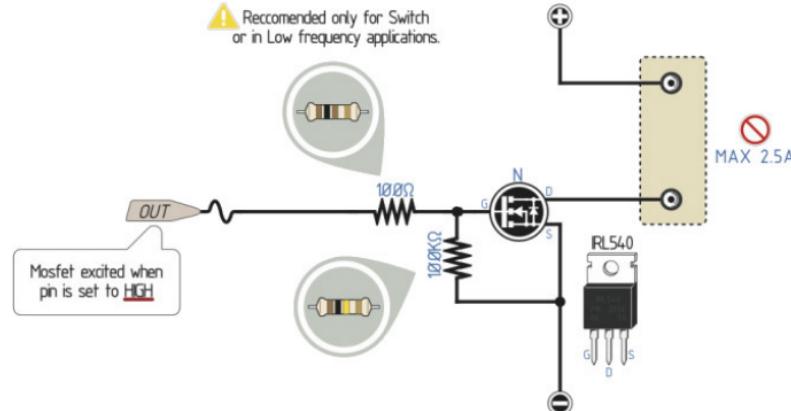
2.58 062

Connect a Lamp (DC LOW Voltage)

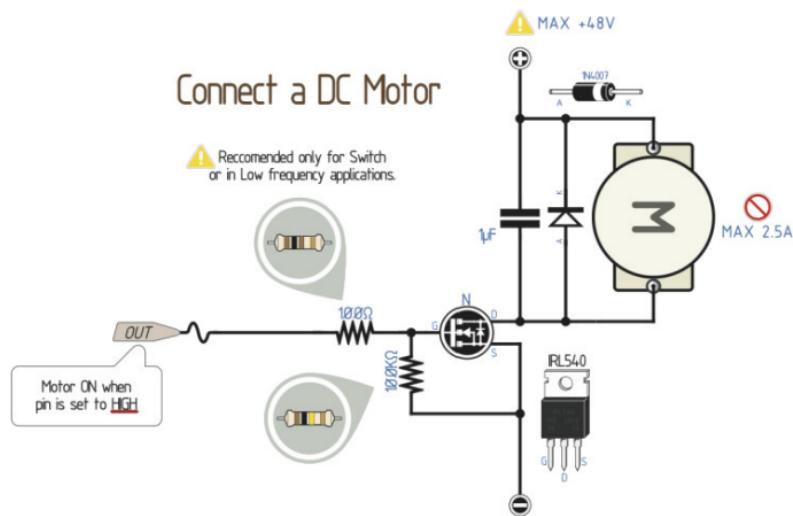


2.59 063

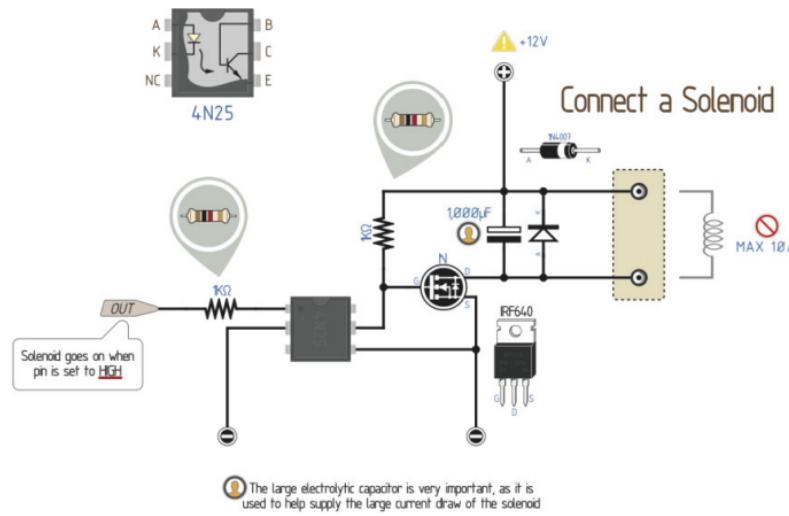
Connect a Mosfet



2.60 064

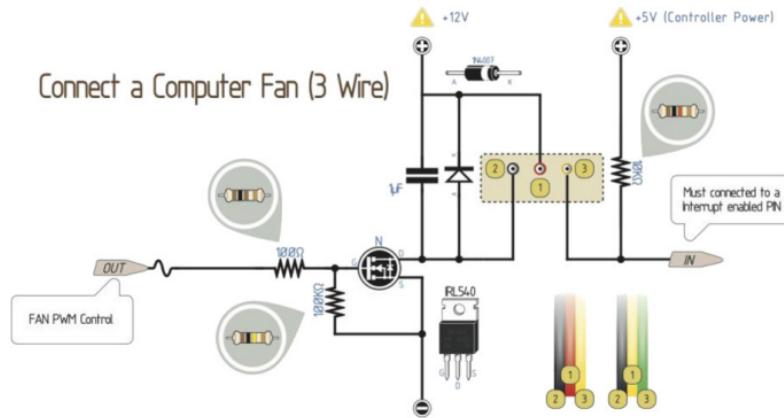


2.61 065



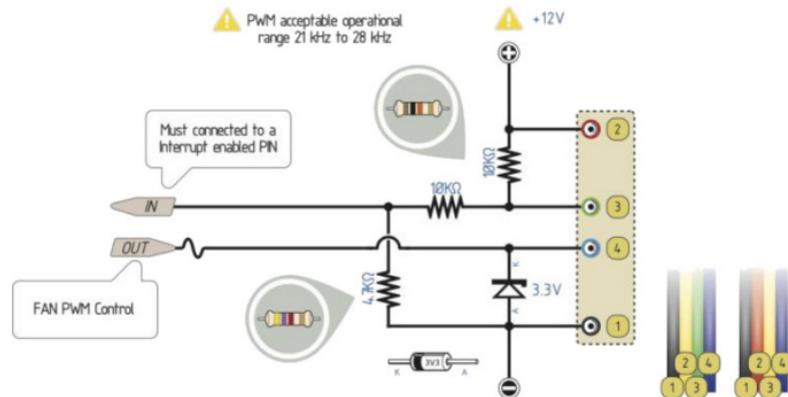
2.62 066

Connect a Computer Fan (3 Wire)



2.63 067

Connect a Computer Fan (4 Wire)

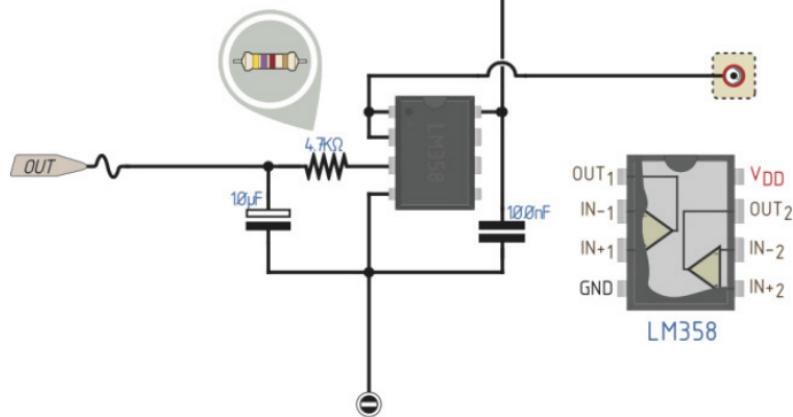


2.64 068

If supply voltage is 5V it outputs a maximum of about 3.4V.
Suggested 7V for 5V output

⚠ 5V to 12V

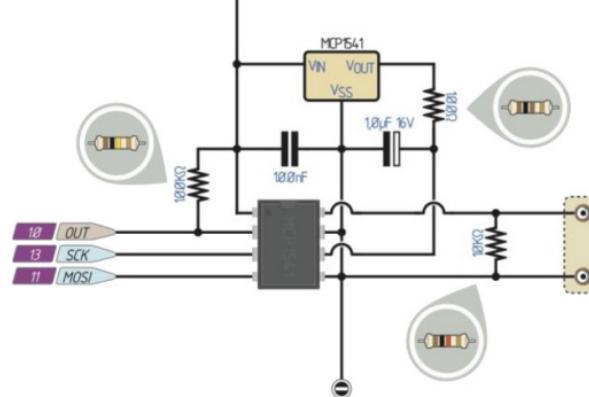
Buffer Out



2.65 069

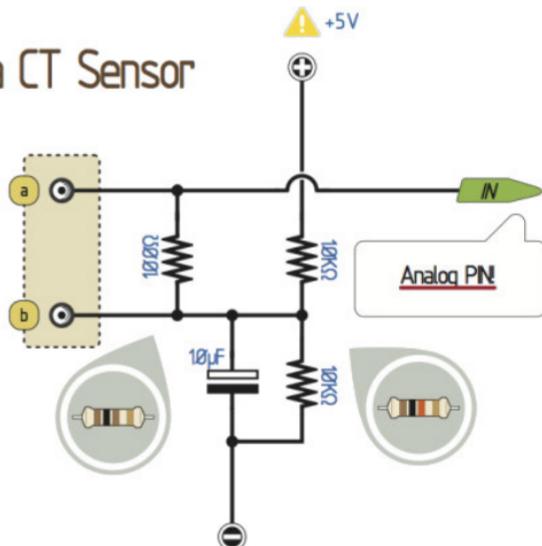
⚠ 5V

Connect a DAC

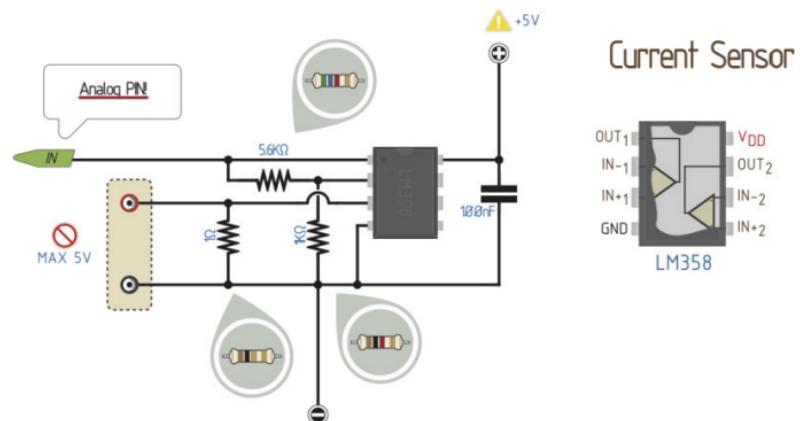


2.66 070

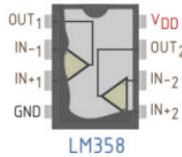
Connect a CT Sensor



2.67 071

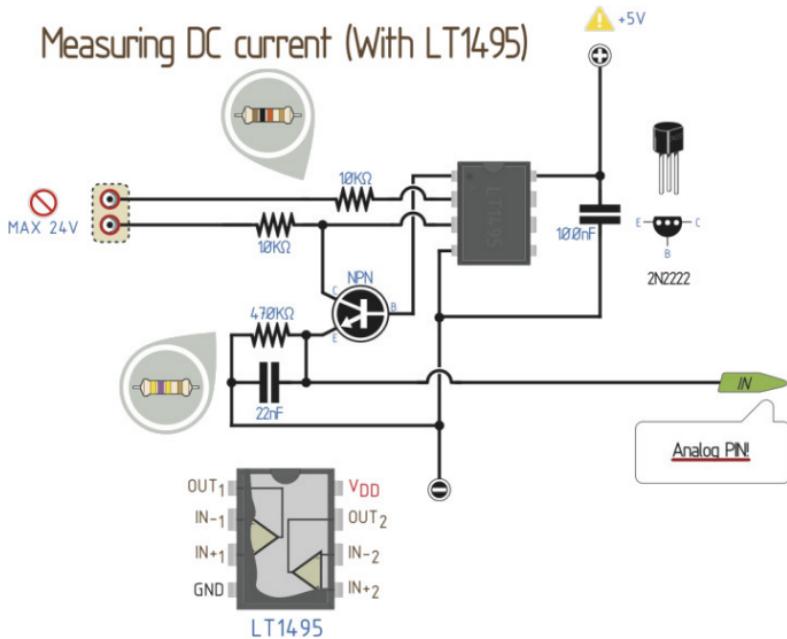


Current Sensor



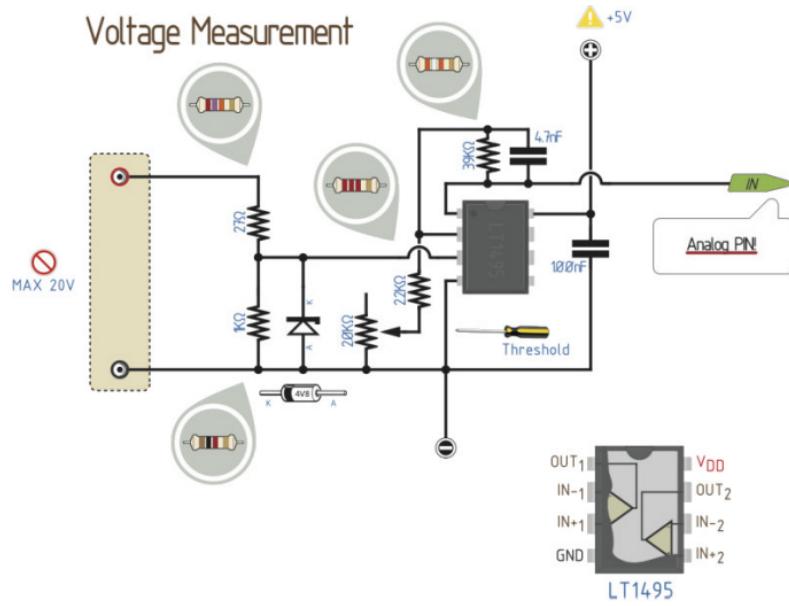
2.68 072

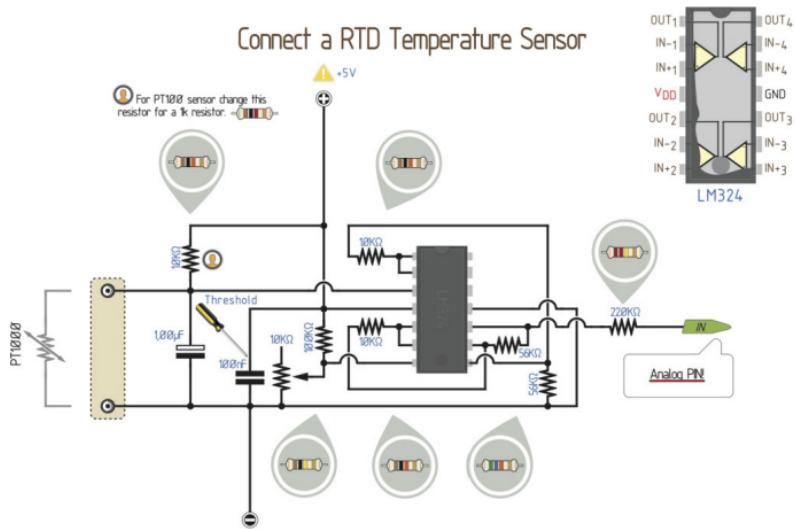
Measuring DC current (With LT1495)



2.69 073

Voltage Measurement

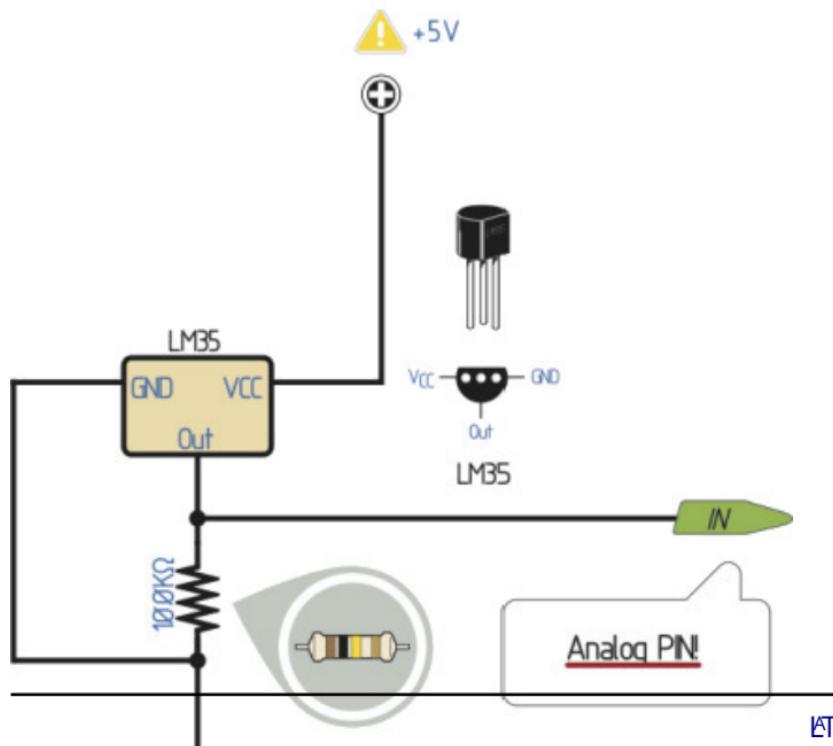


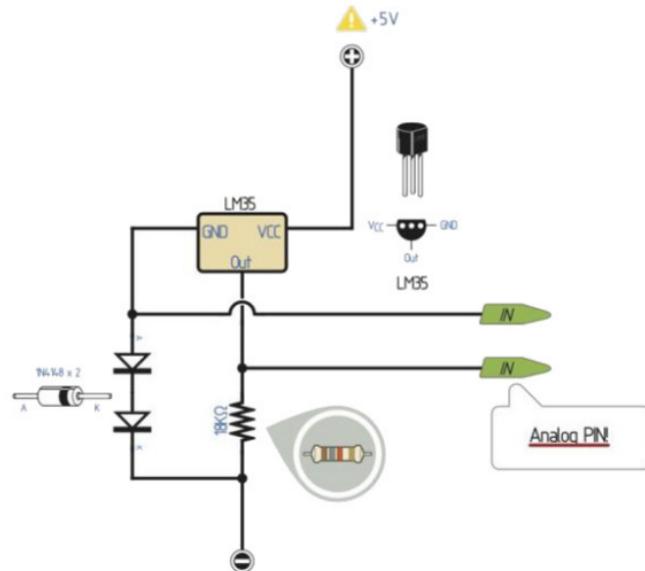
2.70 074

LM324

2.71 075

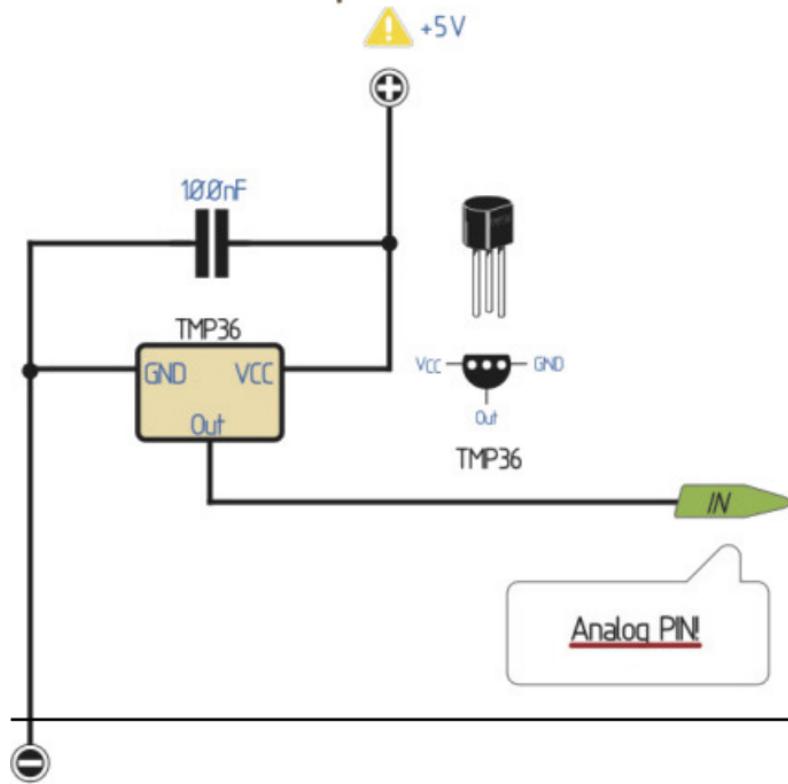
LM35 Temperature Sensor



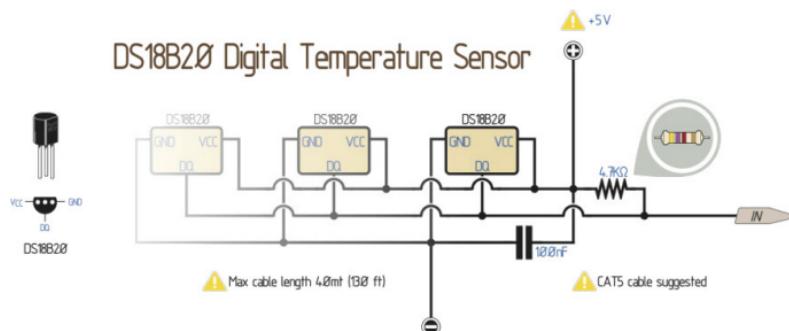
2.72 076**LM35 Temperature Sensor (Full range scale application)**

2.73 077

TMP36 Temperature Sensor

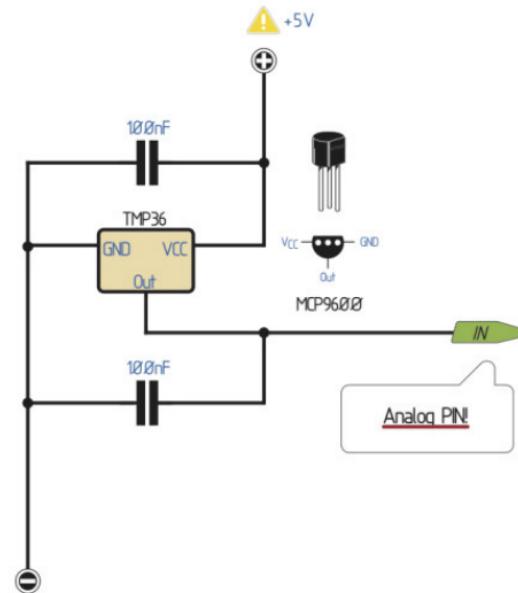


2.74 078



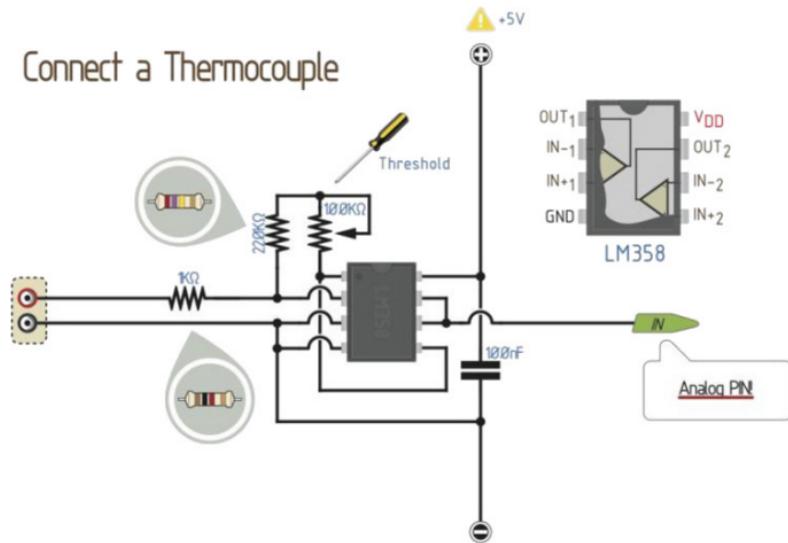
2.75 079

MCP9600 Temperature Sensor



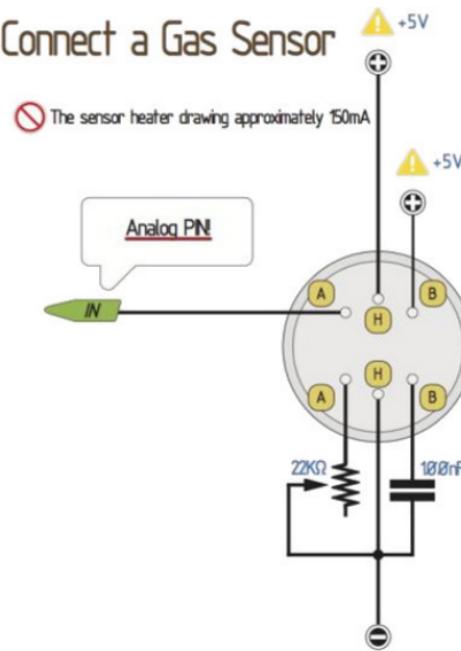
2.76 080

Connect a Thermocouple

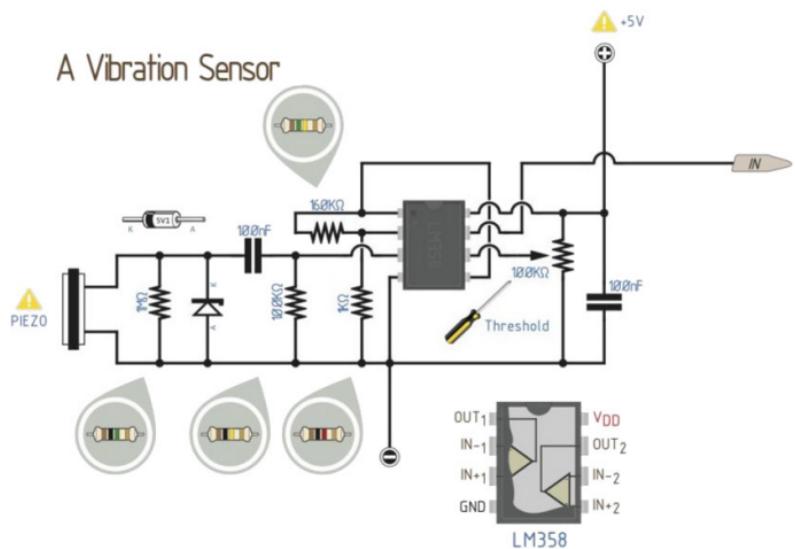


2.77 081

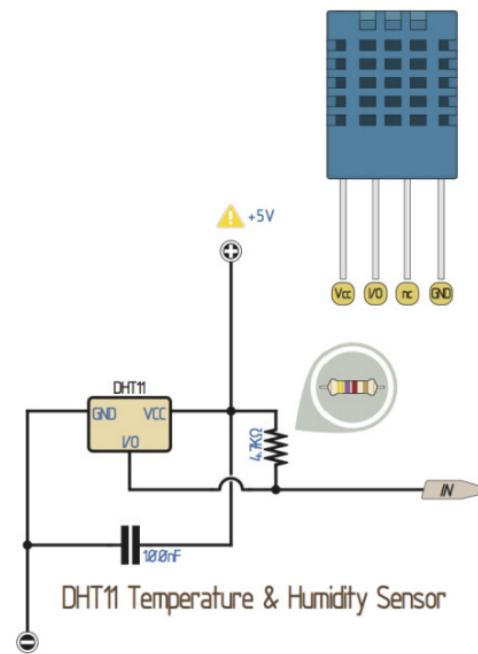
Connect a Gas Sensor



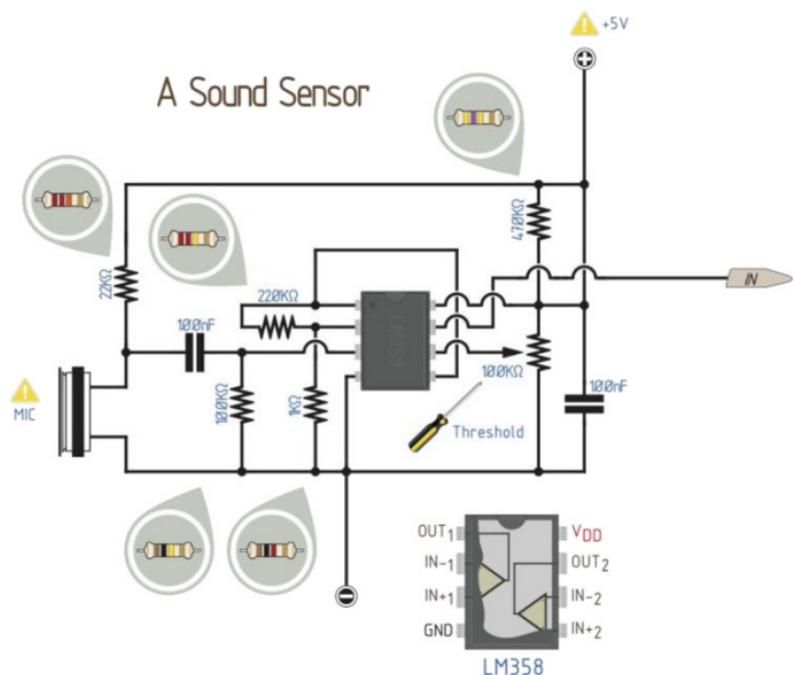
2.78 082



2.79 083

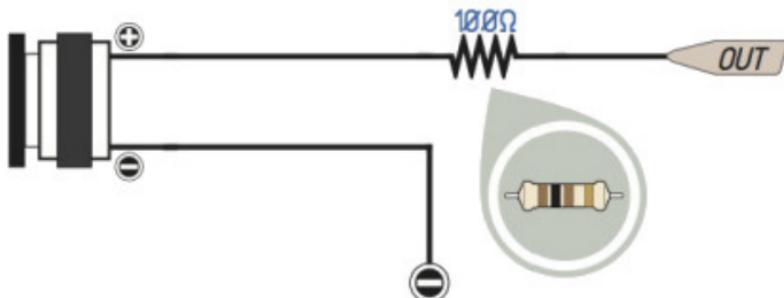


2.80 084



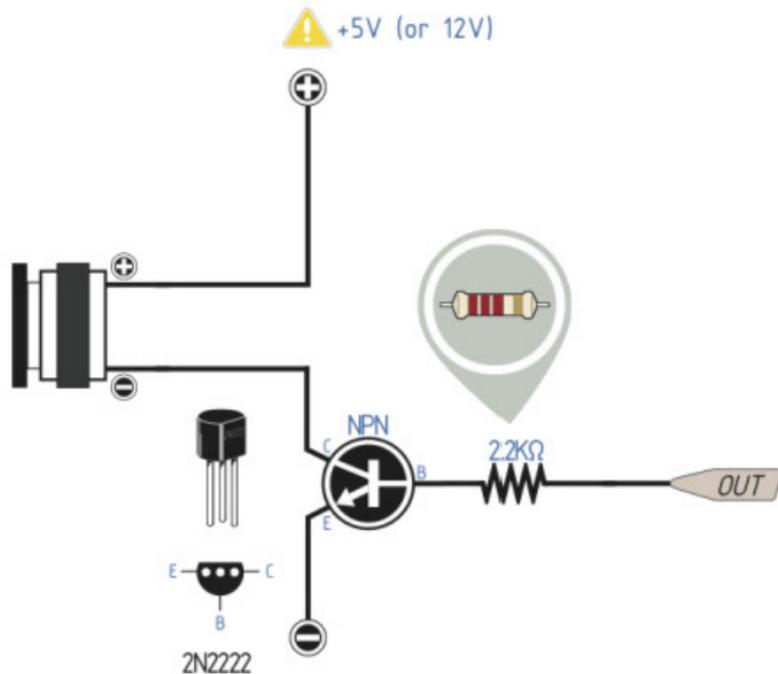
2.81 085

Connect a Buzzer



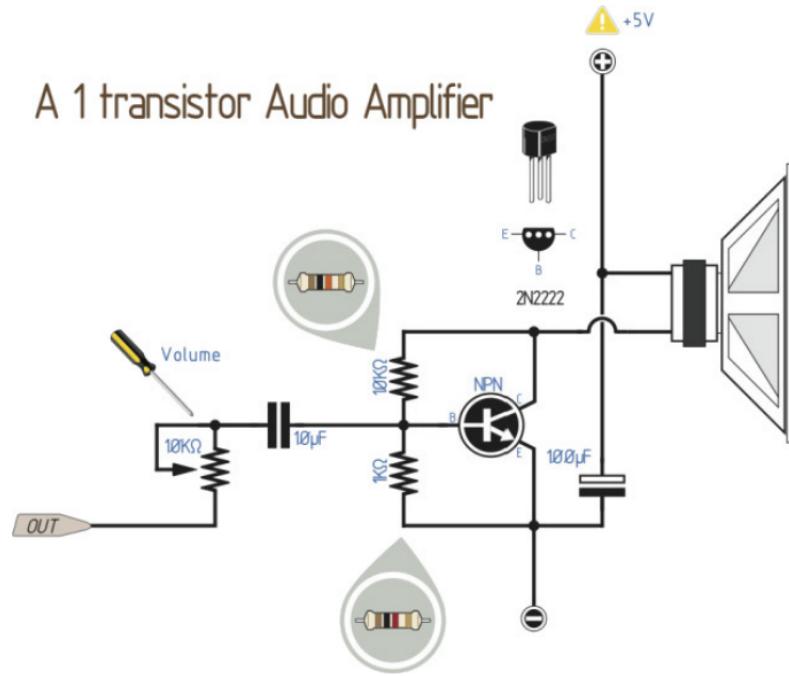
2.82 086

Connect a Buzzer (With Transistor)

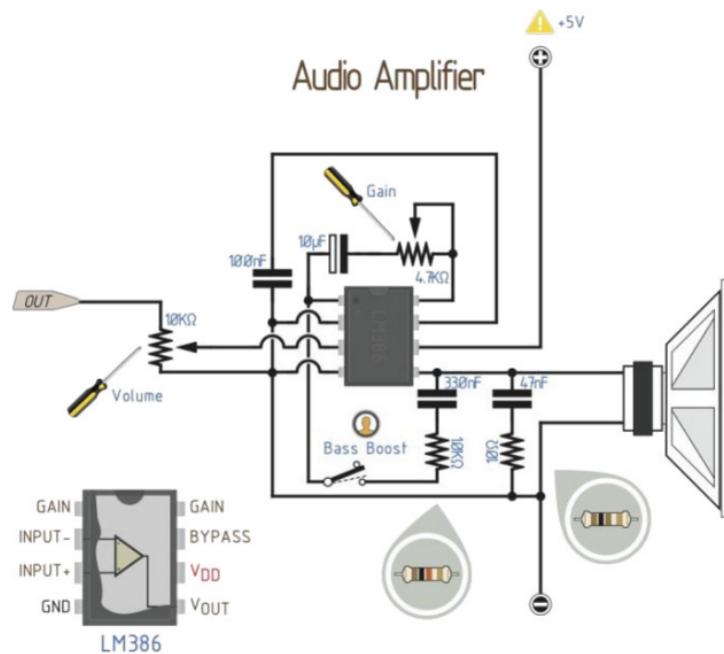


2.83 087

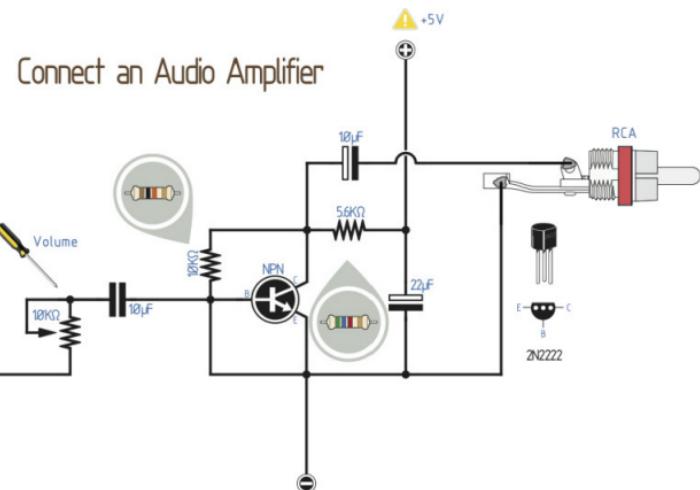
A 1 transistor Audio Amplifier



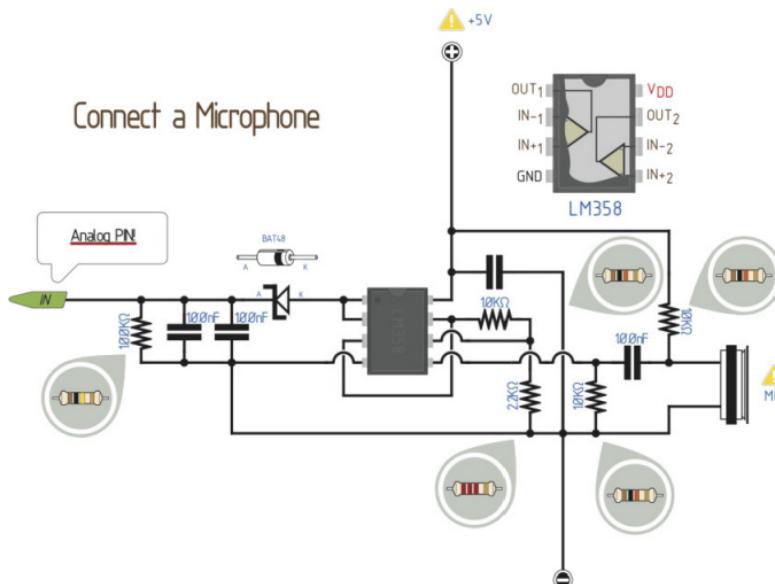
2.84 088



2.85 089

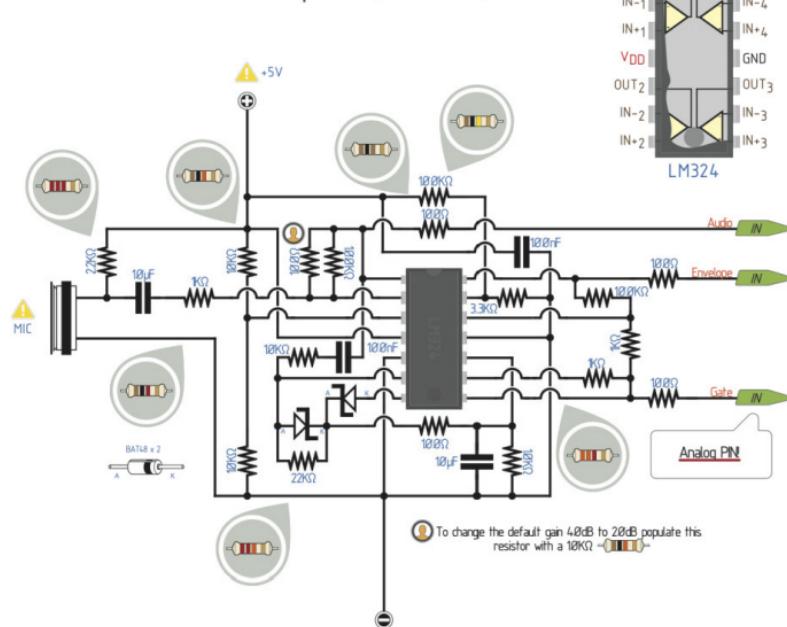


2.86 090



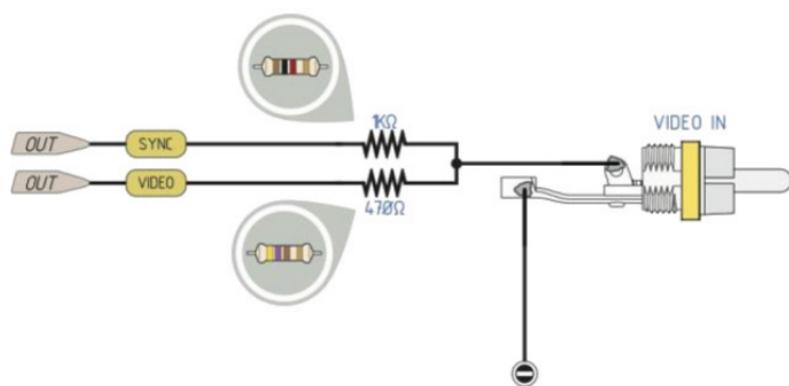
2.87 091

Connect a Microphone (Advanced)

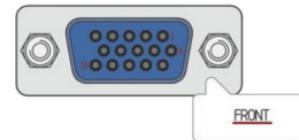
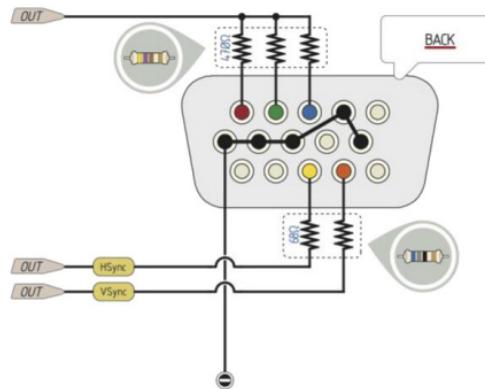


2.88 092

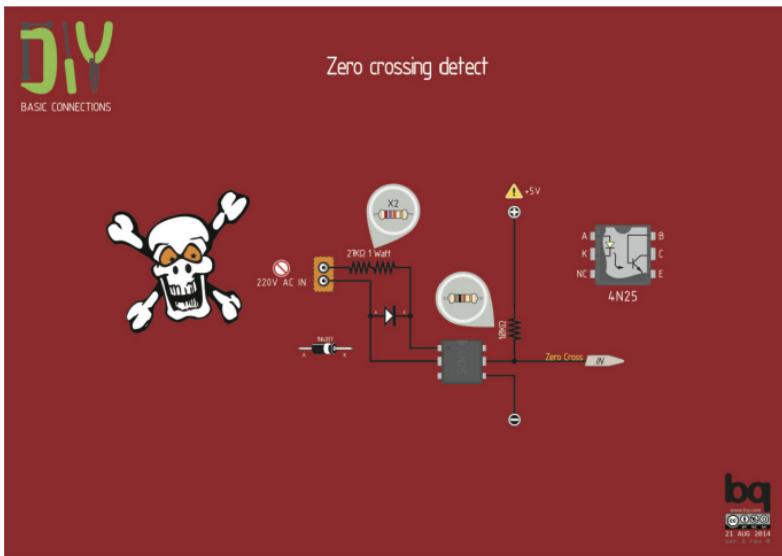
Connect to Composite Video

**2.89 093**

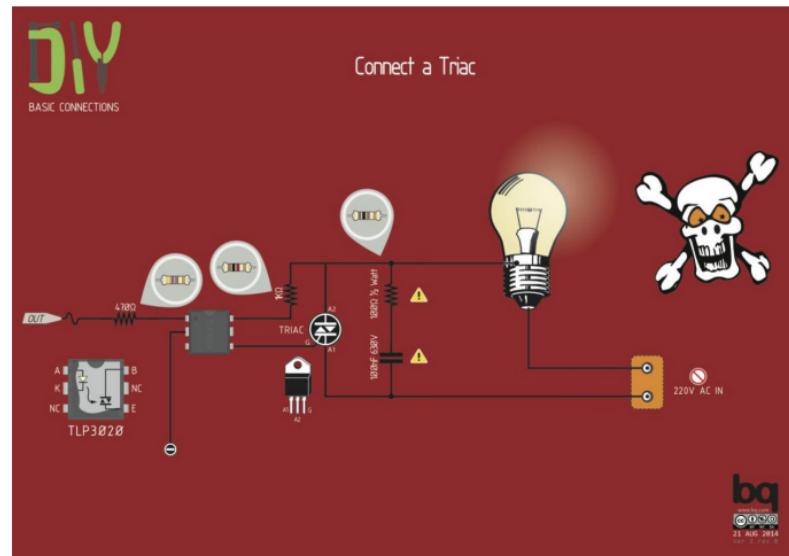
Connect to VGA

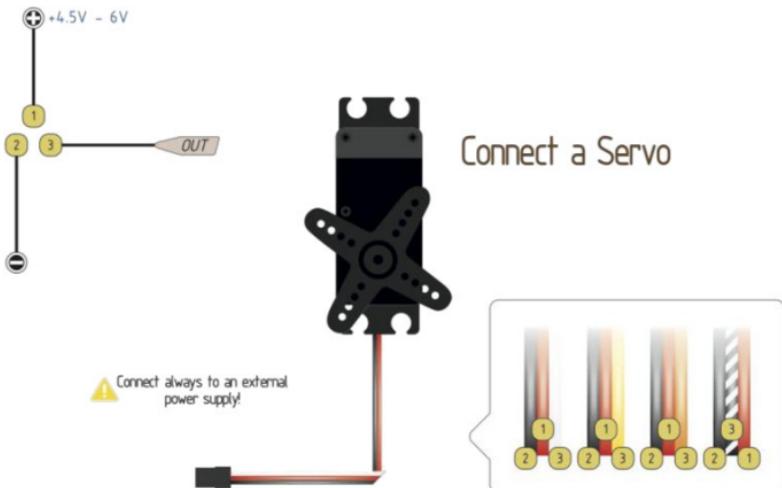
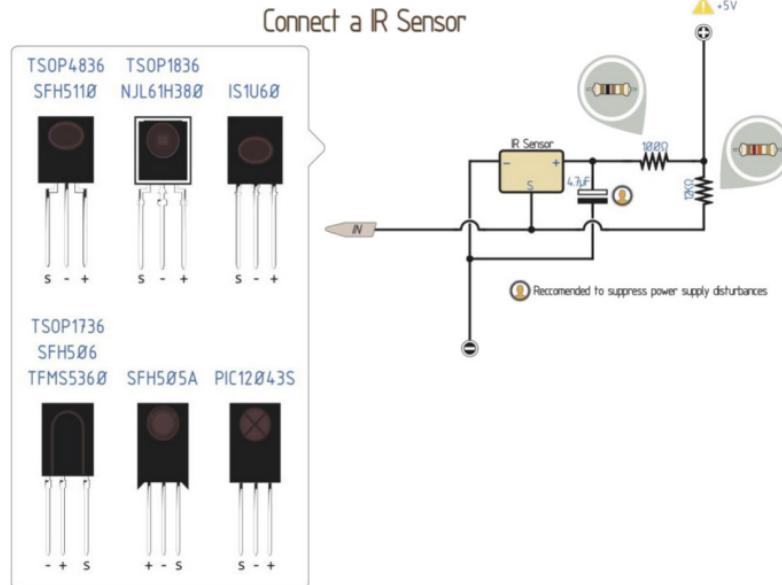


2.90 094



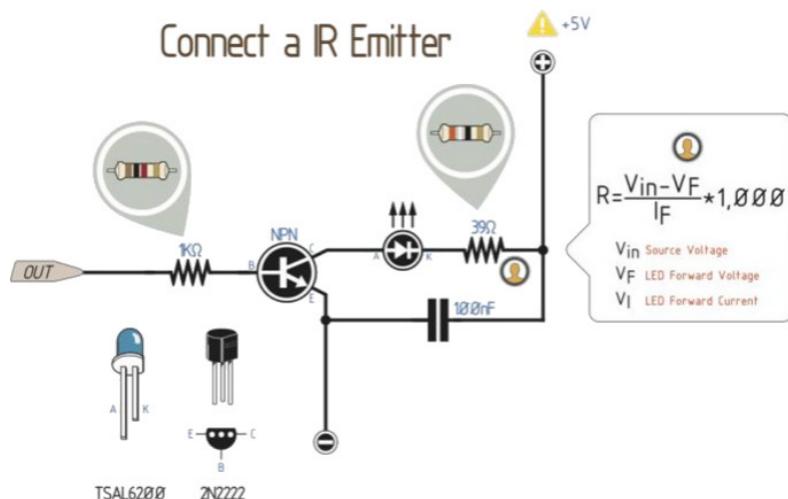
2.91 095



2.92 096**2.93 097**

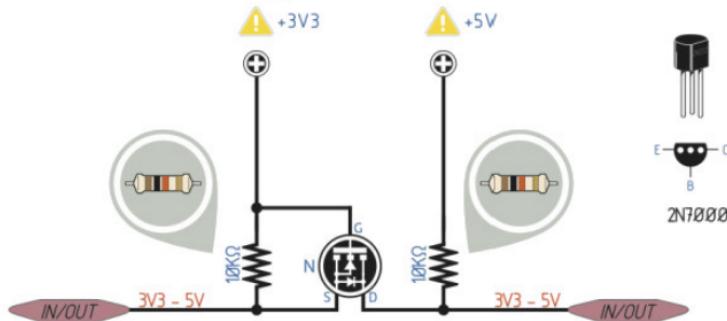
2.94 098

Connect a IR Emitter



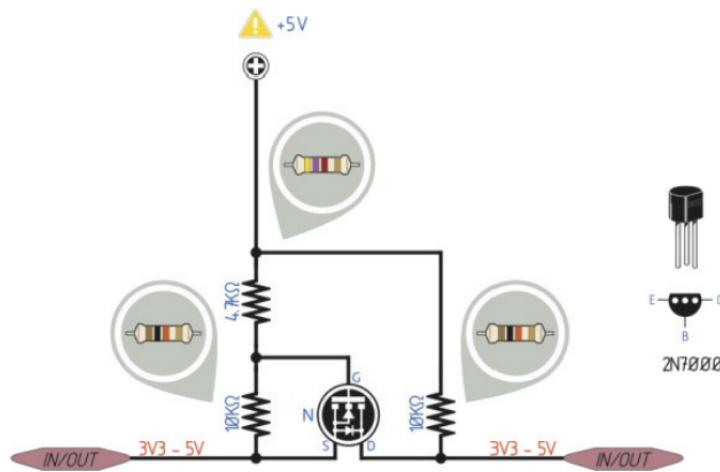
2.95 099

Bi-Directional Voltage Level Converter 3.3V to 5V



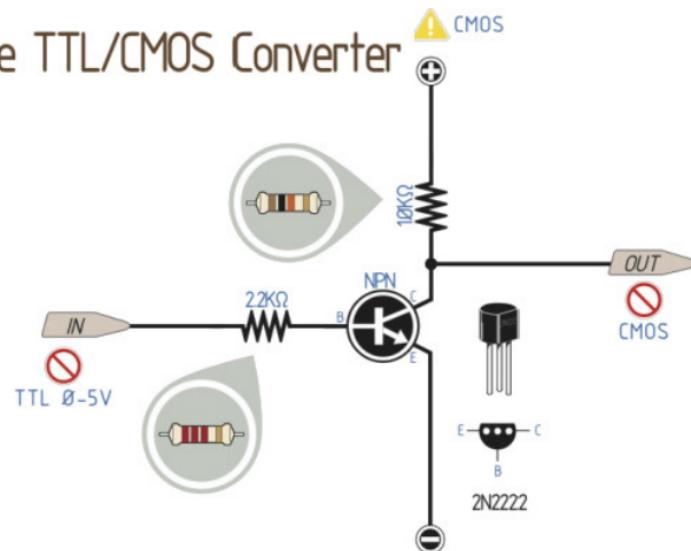
2.96 100

Bi-Directional Voltage Level Converter 3.3V to 5V (with Voltage Divider)



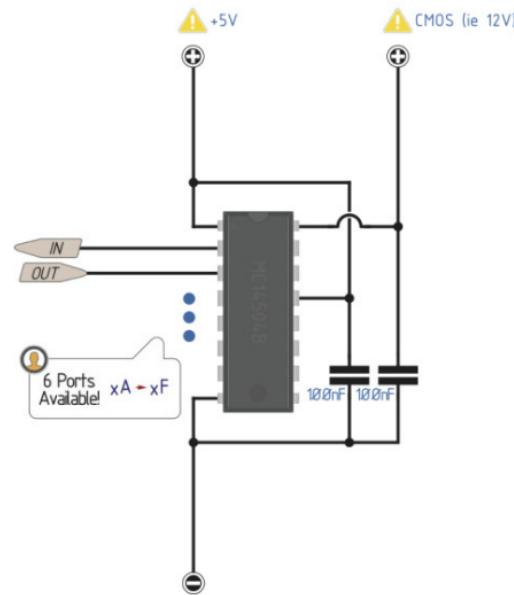
2.97 101

simple TTL/CMOS Converter



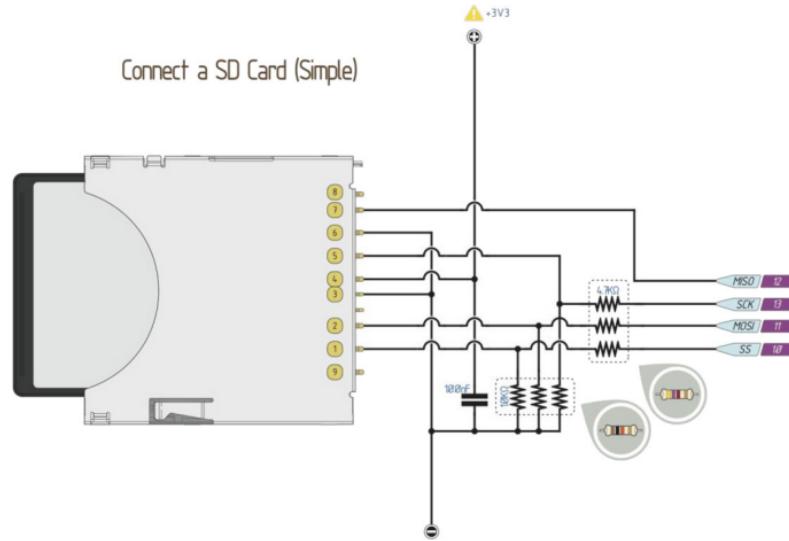
2.98 102

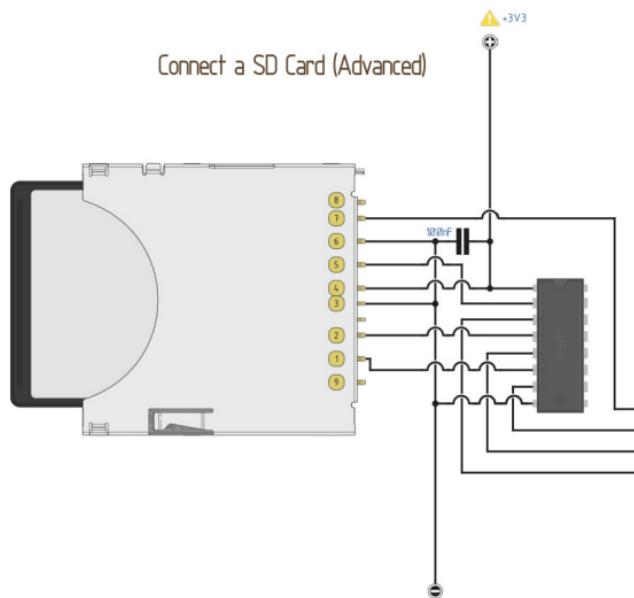
TTL/CMOS Converter (6 ports)



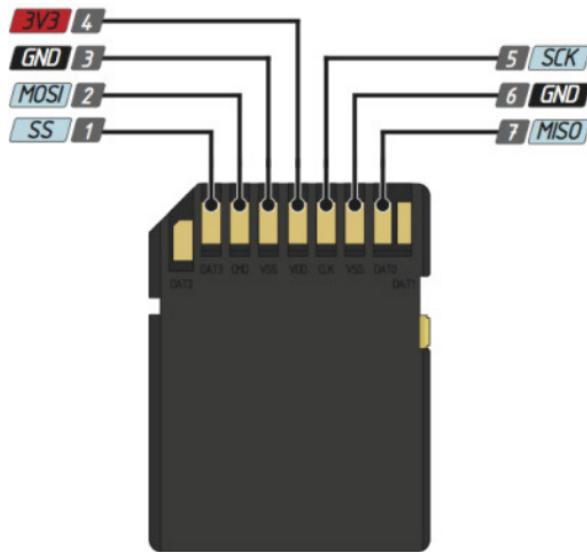
2.99 103

Connect a SD Card (Simple)

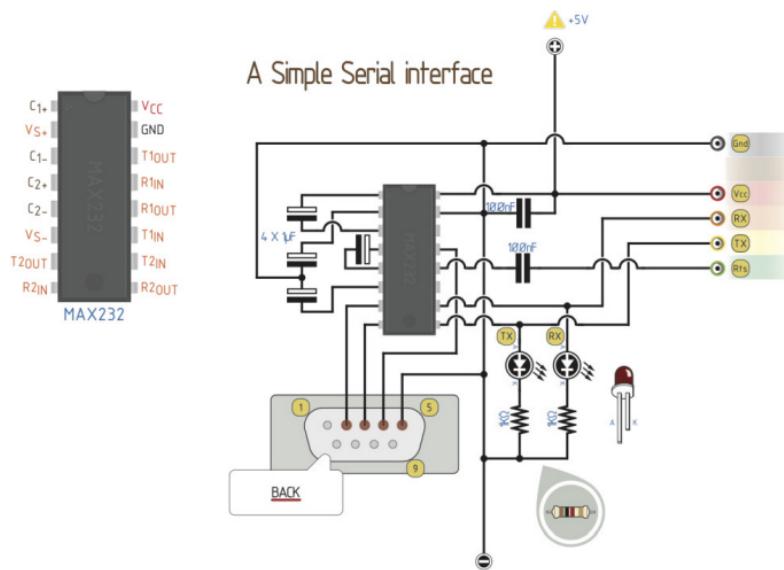


2.100 104**2.101 105**

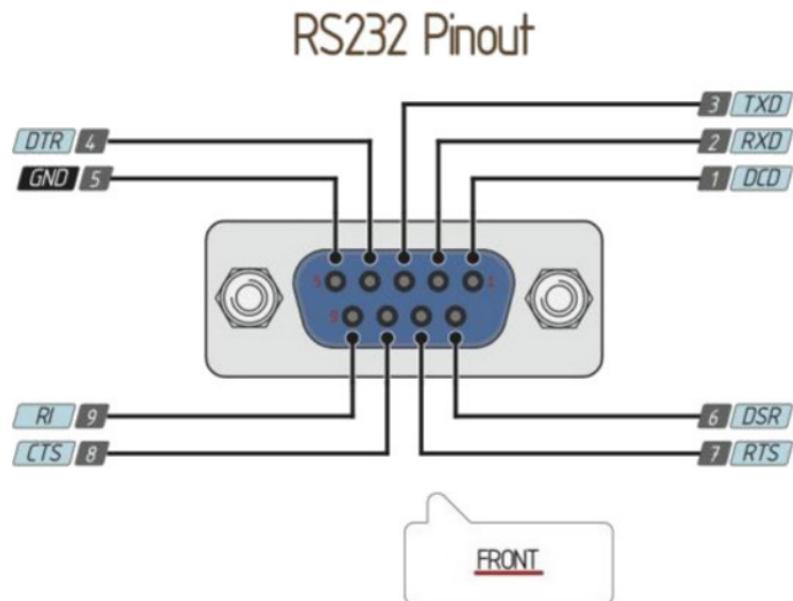
SD Card pinout



2.102 106

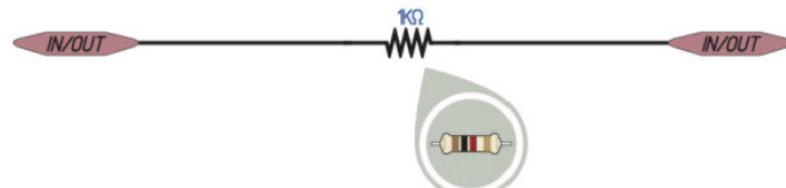


2.103 107



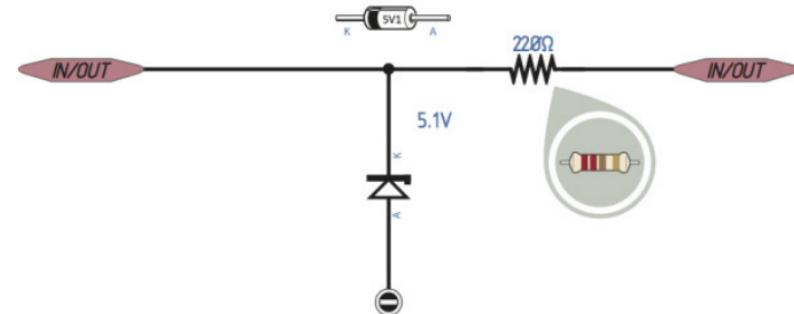
2.104 108

Connect 2 MPU's

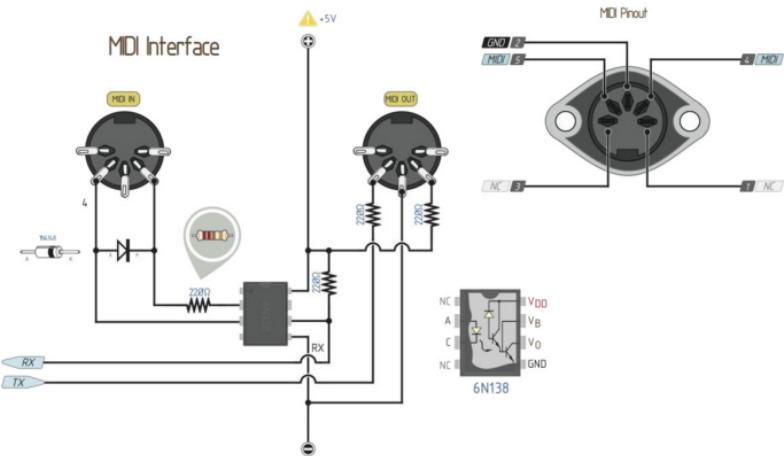


2.105 109

Protect a I/O Pin

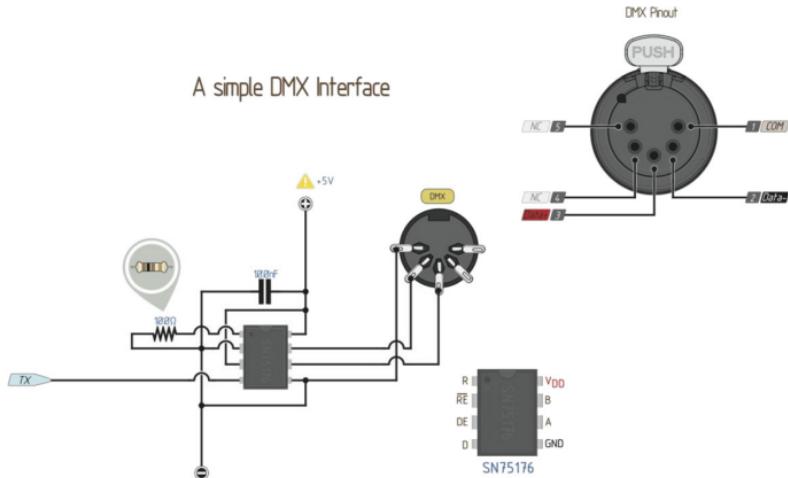


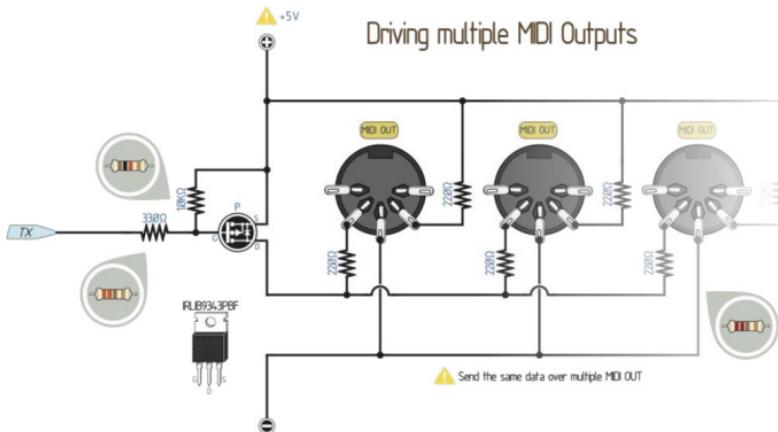
2.106 110



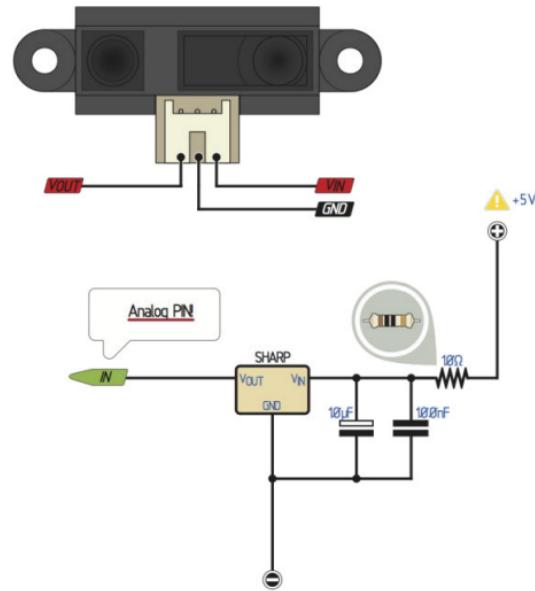
2.107 111

A simple DMX Interface



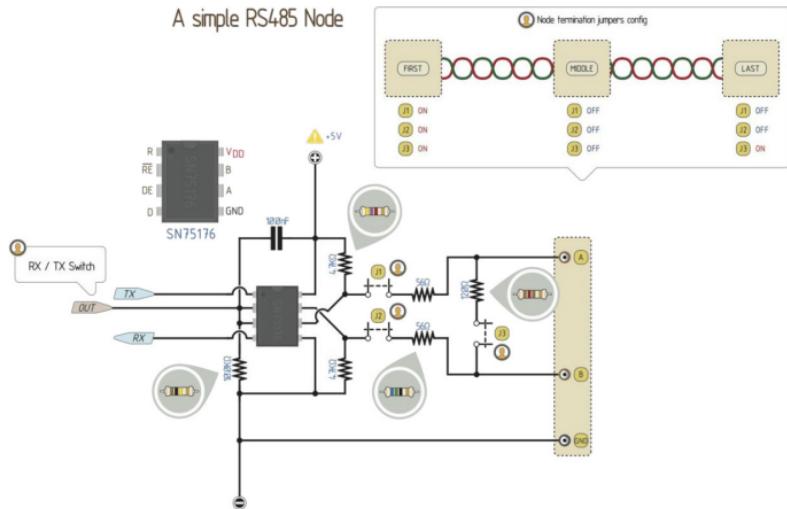
2.108 112**2.109 113**

Connect a SHARP GP2Y0A21 Distance Sensor



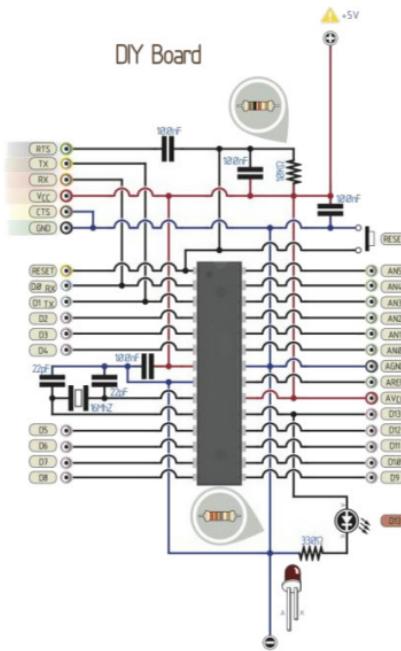
2.110 114

A simple RS485 Node



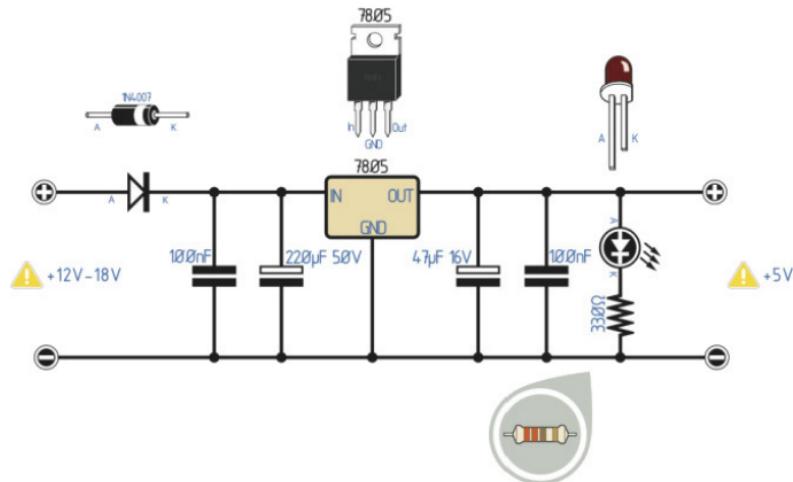
2.111 115

DIY Board

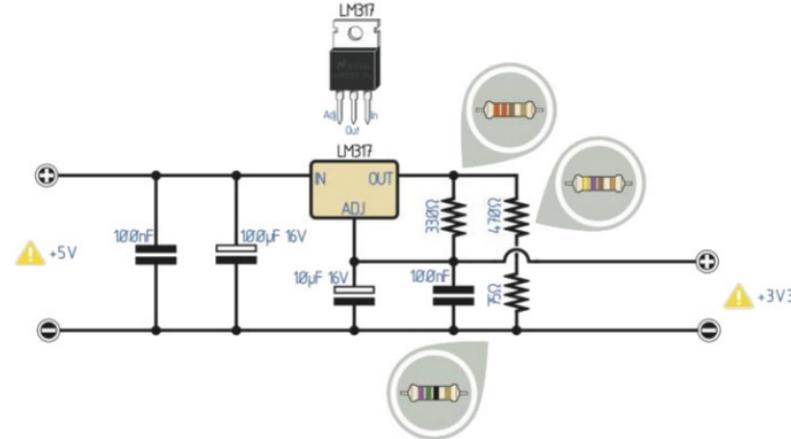


2.112 116

Simple 5V Power Supply

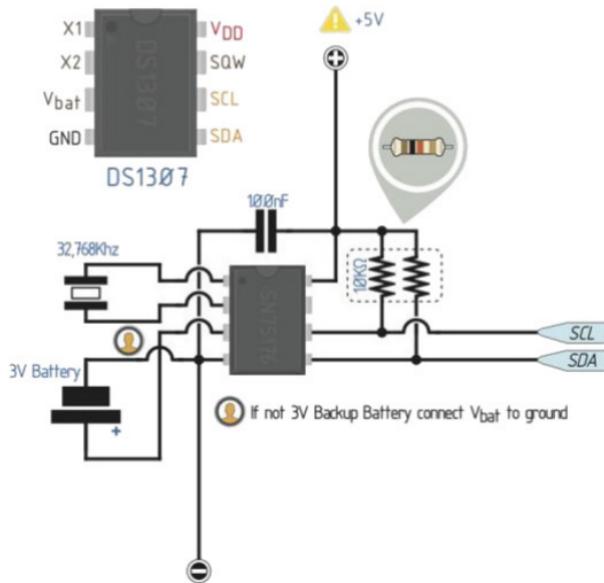
**2.113 117**

Simple 3V3 Power Supply



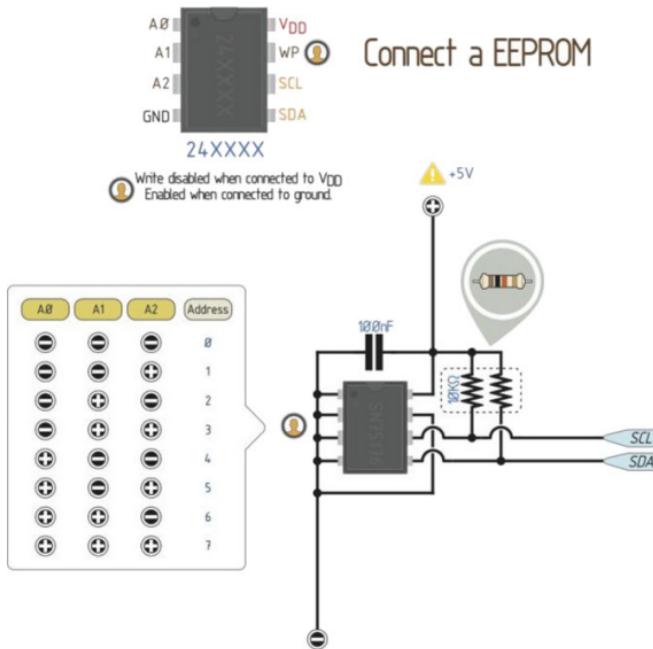
2.114 118

Connect a RTC



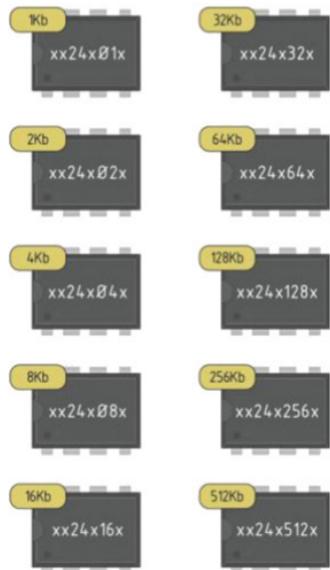
2.115 119

Connect a EEPROM

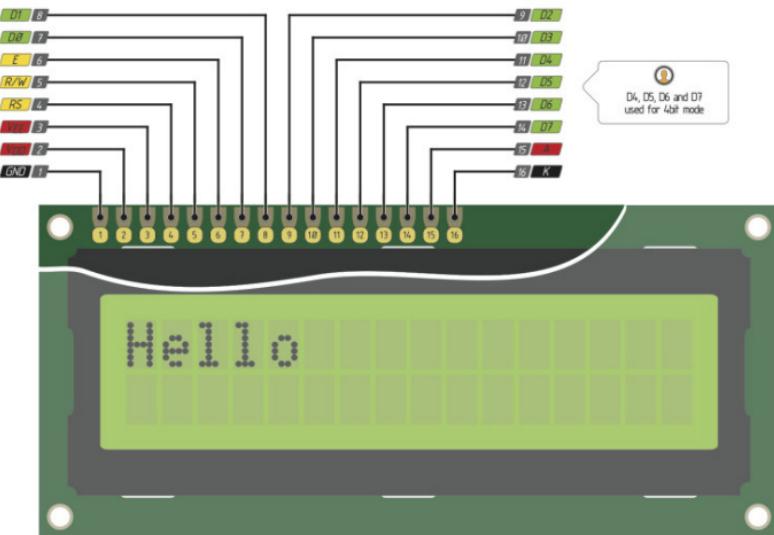


2.116 120

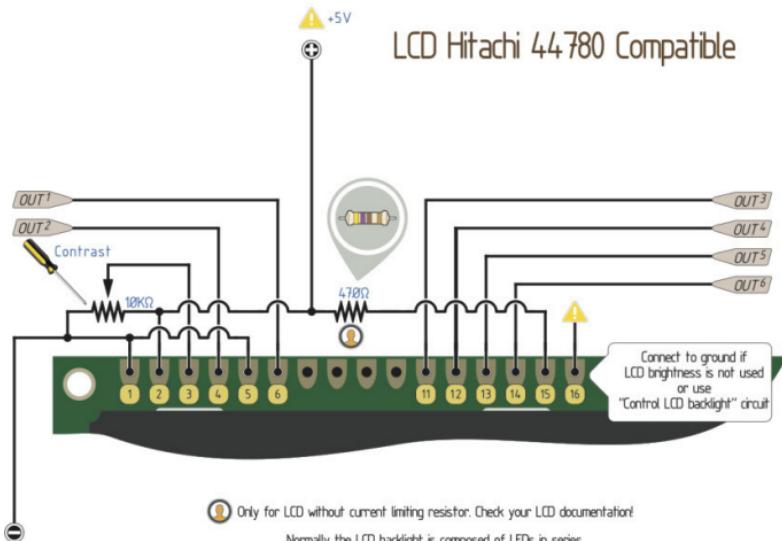
EEPROM Wiki

**2.117 121**

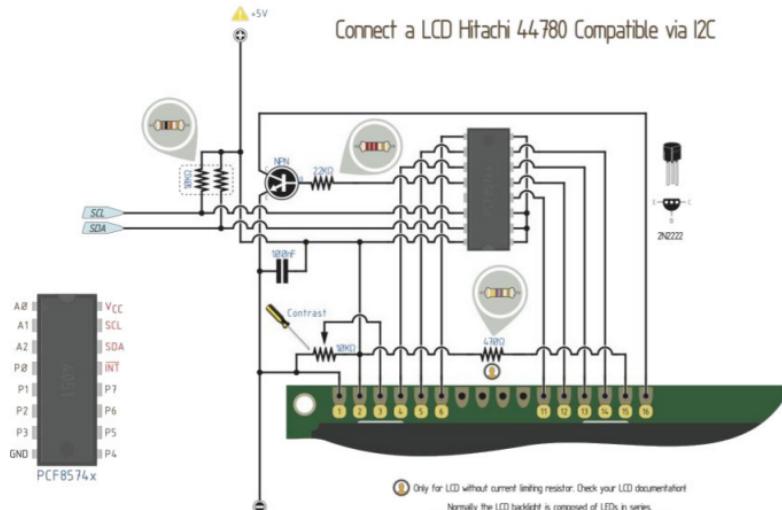
Hitachi 44780 Compatible pinout



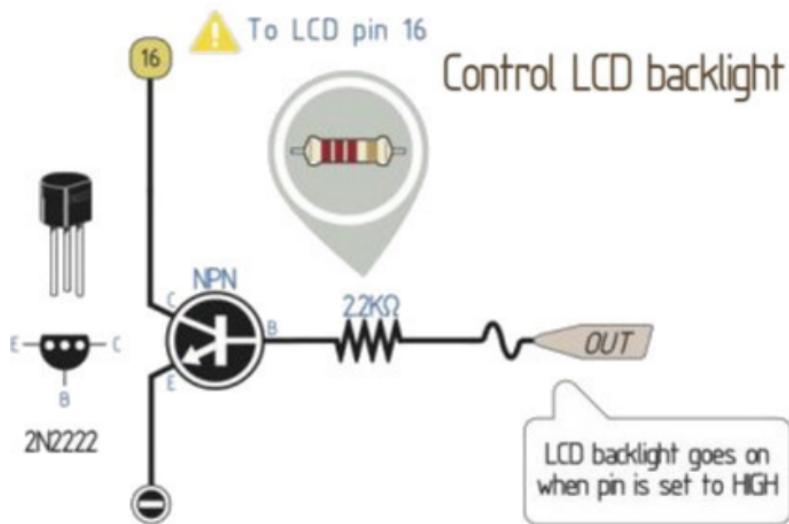
2.118 122



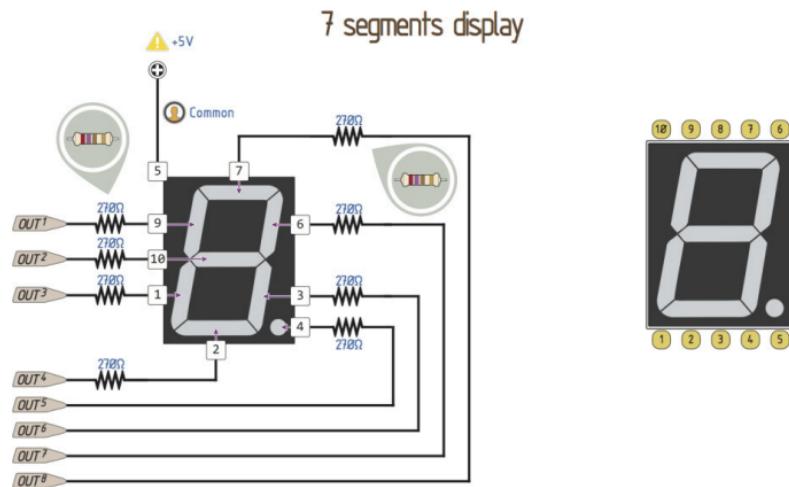
2.119 123



2.120 124



2.121 125



2.122 126

Connect a Nokia LCD

