Pushbutton to 12V
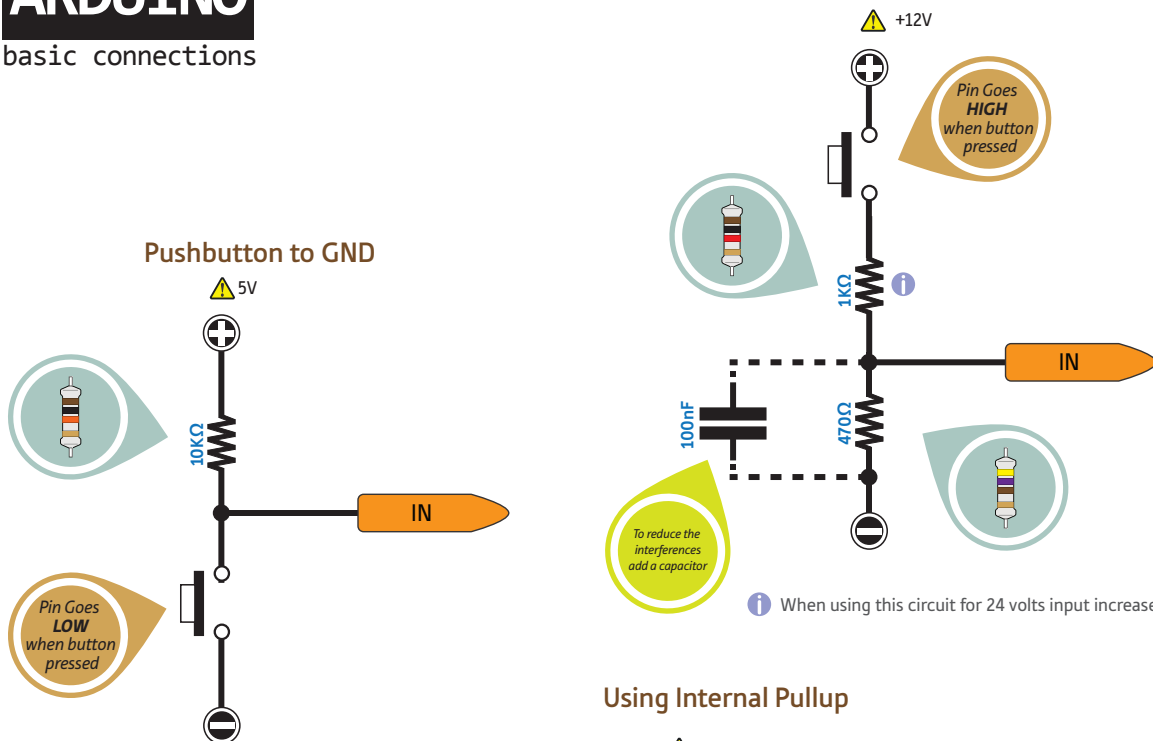*Should you need to connect Arduino inputs to a DC voltage higher than 5V*
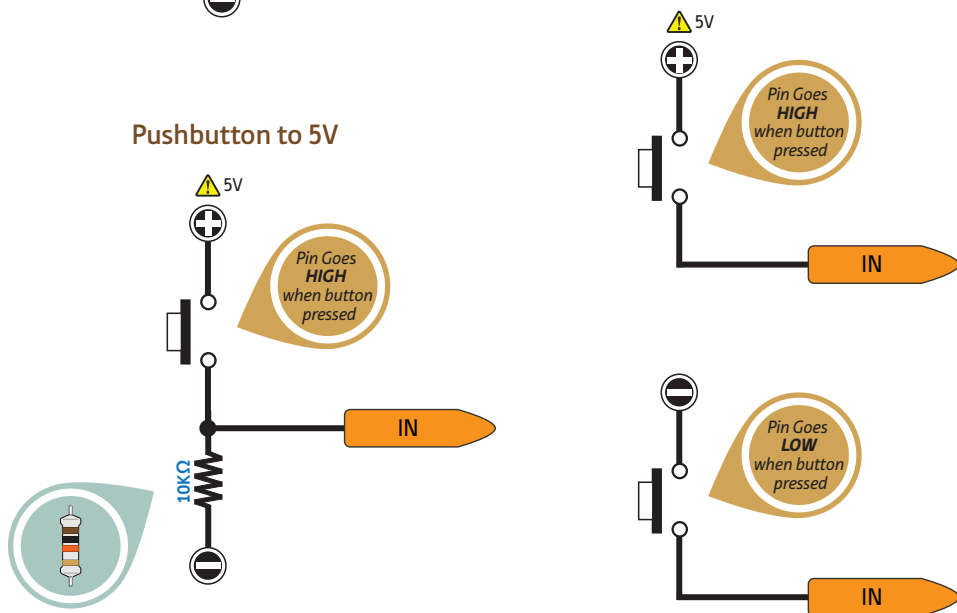
⚠ +12V

Pin Goes **HIGH** when button pressed

1KΩ ℹ

IN

100nF

470Ω

V_{in} LOW

To reduce the interferences add a capacitor

ℹ When using this circuit for 24 volts input increase R to 2200Ω

Optocoupled inputs
Used when galvanic separation between external circuitry and Arduino circuit is required

⚠ 5V

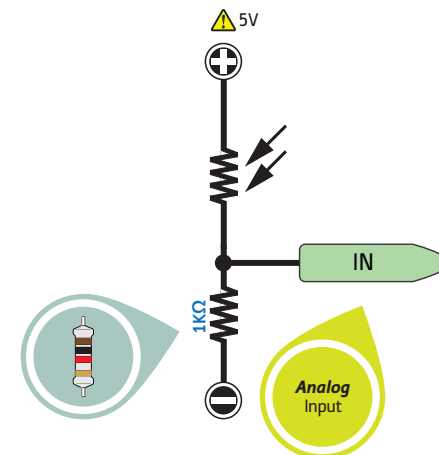10KΩ

⚠ MAX +12V   1KΩ   A   C

IN

K   E

V_{in} LOW

A		B
K		C
NC		E

4N25

Pushbutton to GND

⚠ 5V

10KΩ

IN

Pin Goes **LOW** when button pressed

Using Internal Pullup

⚠ 5V

Pin Goes **HIGH** when button pressed

IN

Pin Goes **LOW** when button pressed

IN

Pushbutton to 5V

⚠ 5V

Pin Goes **HIGH** when button pressed

IN

10KΩ
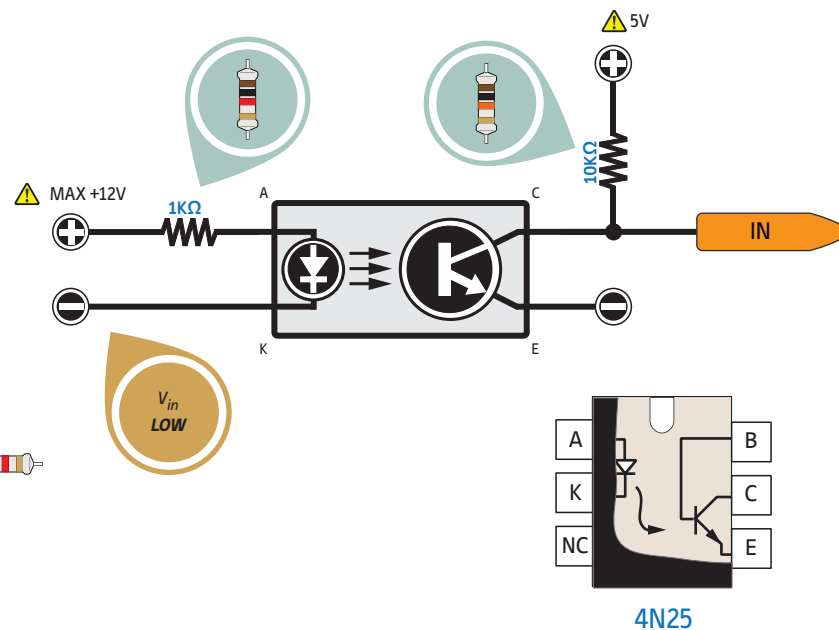
Trimmer or Potentiometer

⚠ 5V

IN

Analog Input

Photoresistor

⚠ 5V

IN

1KΩ

Analog Input

03 APR 2013
ver 1 rev 0

Connect a Led

5V

470Ω

A

K

OUT

Led goes ON when pin is set to LOW

Connect a Led

OUT

A

K

470Ω

Led goes ON when pin is set to HIGH
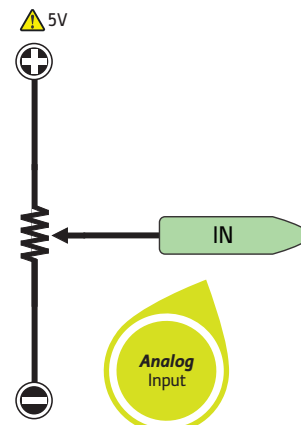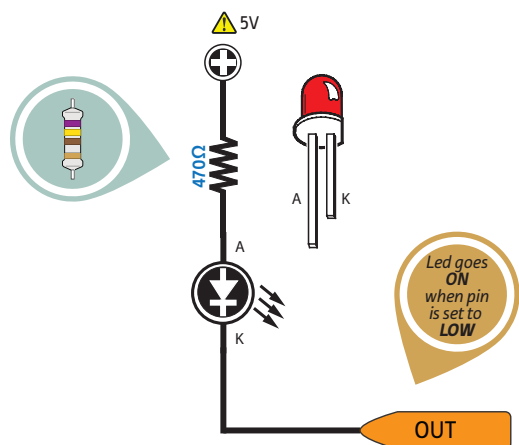
Dual LEDs or bi-color LED

5V

470Ω

A

K

HIGH

OUT

LOW

A

K

470Ω
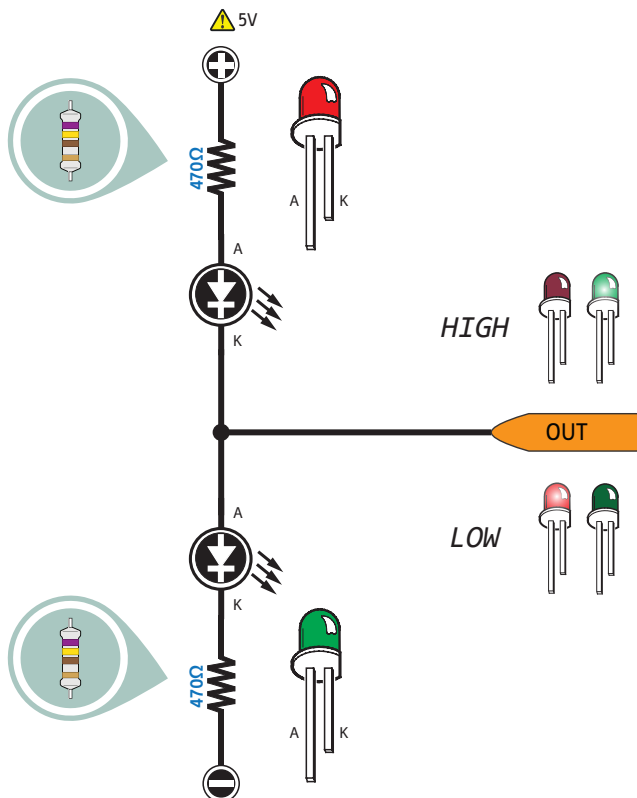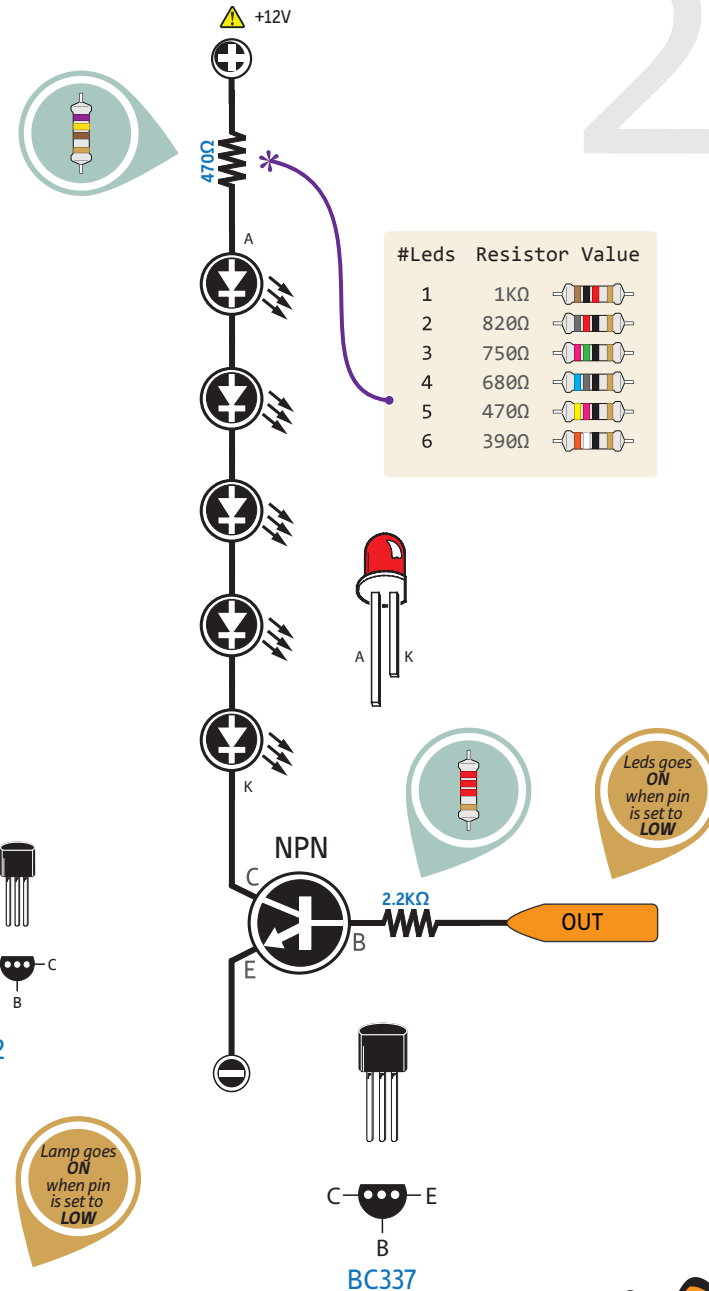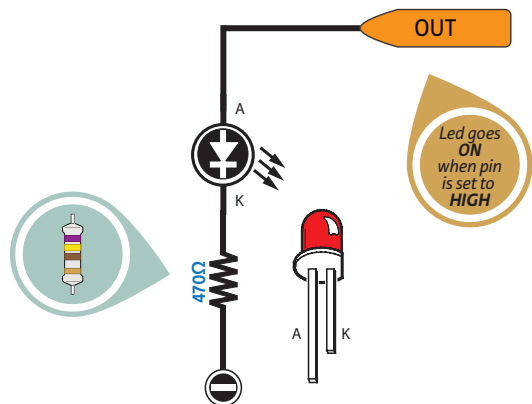
Connect a Lamp (DC Low Voltage)

K

A

1N4007

C — E
B
2N2222

E — C
B

NPN

E

B

C

2.2KΩ

OUT

Lamp goes ON when pin is set to LOW

LED clusters

+12V

470Ω

*

A

K

#Leds	Resistor Value
1	1KΩ
2	820Ω
3	750Ω
4	680Ω
5	470Ω
6	390Ω

A

K

NPN

C

B

E

2.2KΩ

OUT

Leds goes ON when pin is set to LOW

C — E
B
BC337

Connect a Relay

⚠ +5V ... 12V

1N4007

A   K

Relè

K

A

Relay goes ON when pin is set to HIGH

NPN

C

B

OUT

2.2KΩ

E

C —●—— E

B

BC337
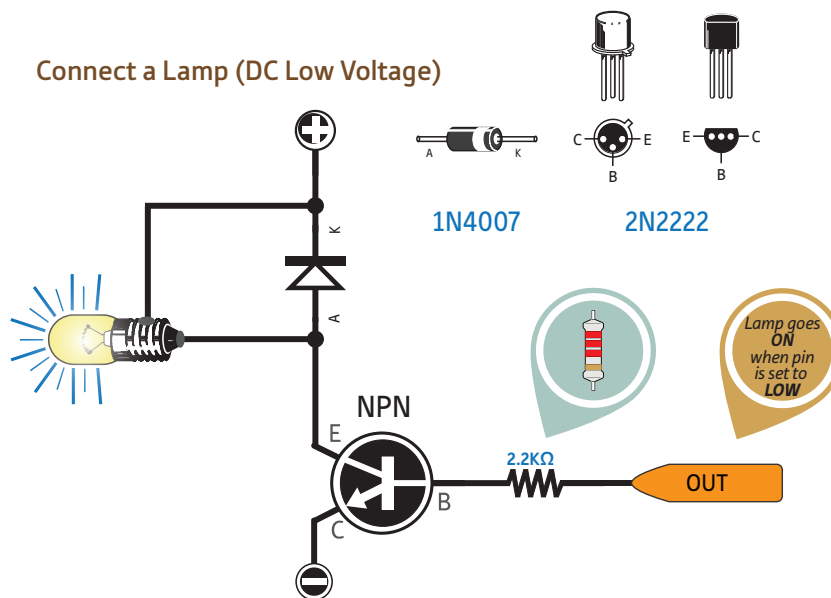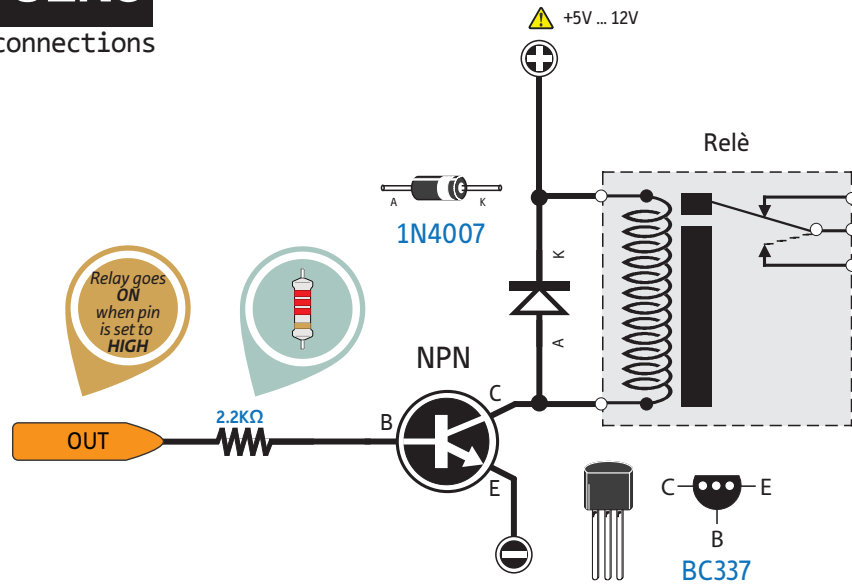
Connect an Audio Amplifier

OUT

100Ω

1KΩ

1µF

RCA

Connect a Mosfet

⚠ +48V

IRL540

G D S

⚠ **OUT MAX 2.5A**

Mosfet excited when pin is set to HIGH

OUT

100Ω

G

D

S

22KΩ
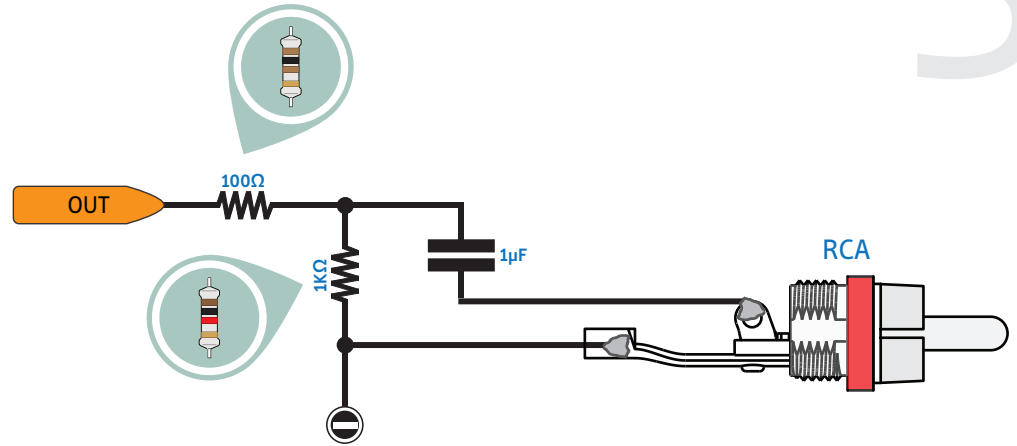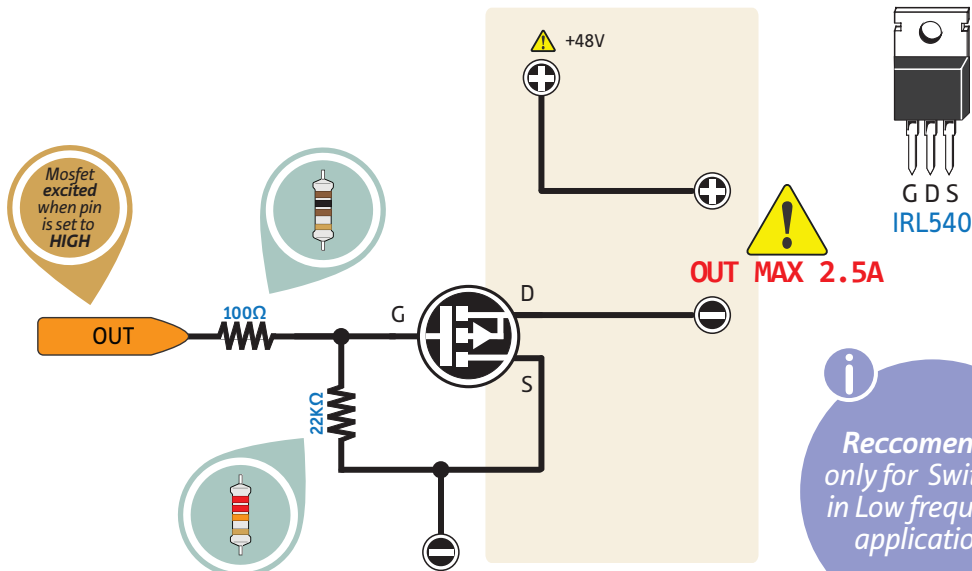
ⓘ *Reccomended only for Switch or in Low frequency applications.*

Connect a Buzzer

OUT

100Ω

Buzzer