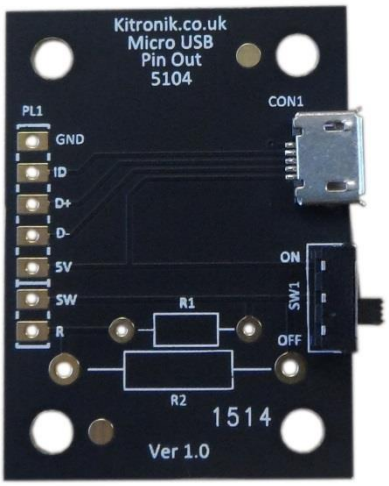
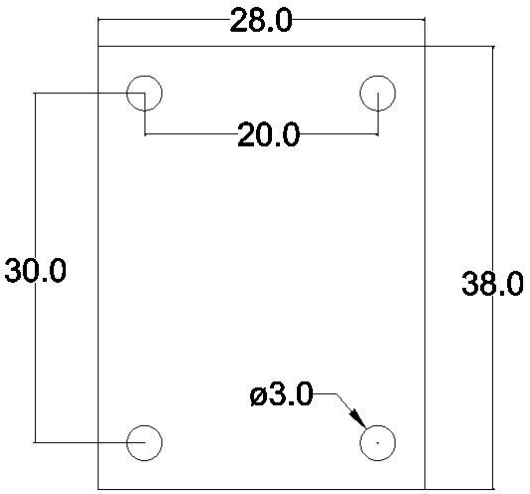
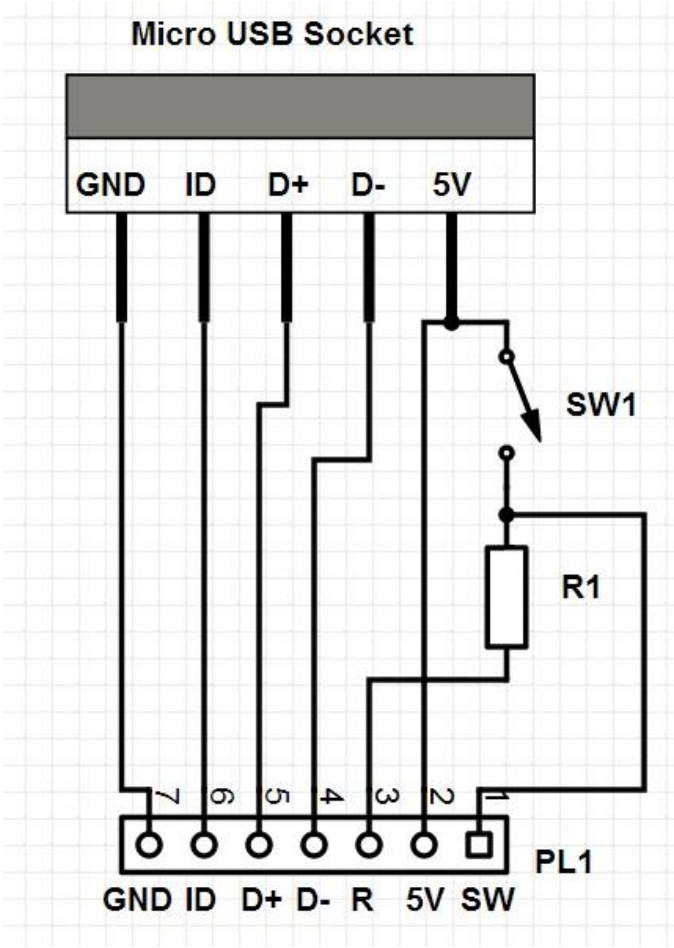
Micro USB Breakout - 5104





(Dimensions in mm)

Circuit Overview



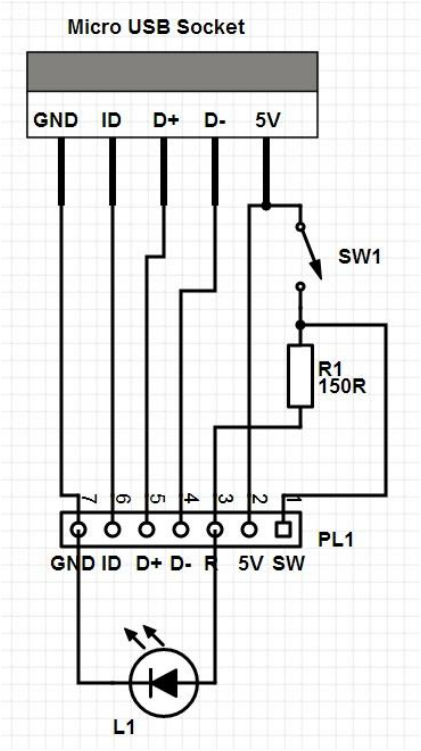
This circuit breaks out the pins of a micro USB connector while also providing a power switch and room for an optional resistor.

This circuit provides an easy way to power a device from a mobile phone charger or PC and also allows access to the data pins if your device needs to communicate via USB.

Pinout

GND	Leads to your computer's ground via the USB port.
ID	This permits the device to work with a USB Accessory Charger Adapter which allows an OTG(On-The-Go) device to be attached to both the board and another device simultaneously.
D+	Data Pin
D-	Data Pin
R	The 5V output of the USB drive routed through any optional resistor. Due to the potential drop across the resistor this will be lower than 5V. This pin is also connected to the switch.
5V	Connected directly to the 5V pin on the USB port, no switch or resistor is on this line.
SW	Connected to 5V through the switch, without a resistor.

Example circuit



A really simple circuit you can build to utilise this board is simply adding a resistor and then connecting an LED across the pins R and GND.

The switch can be used to toggle the LED on or off.

For a standard red LED with a forward voltage of around 2V you should use a 150 Ohm resistor.

For different LEDs or multiple LEDs in parallel you can use the calculator tool on our website.

Important Application Notes

The switch is rated for 6V DC / 0.3A.

When designing a self-powered device, remember that you must not pull a D+ or D- line above the Vbus voltage supplied. This can damage the USB port on your computer.