# Introduction

The Kitronik ZIP Circle is a set of 12 RGB LEDs, each LED can produce a full spectrum of colours independent to all of the other LEDs on the bus. Each ZIP LED has a Red, Green and Blue element within the LED. This results in 16,777,216 possible output colours. Multiple ZIP LEDs can be connected to produce longer strings/strips/circles.

The LEDs used are based on the WS2812B part. They can also be coded in the MakeCode Block/Javascript editor with the NeoPixels blocks.
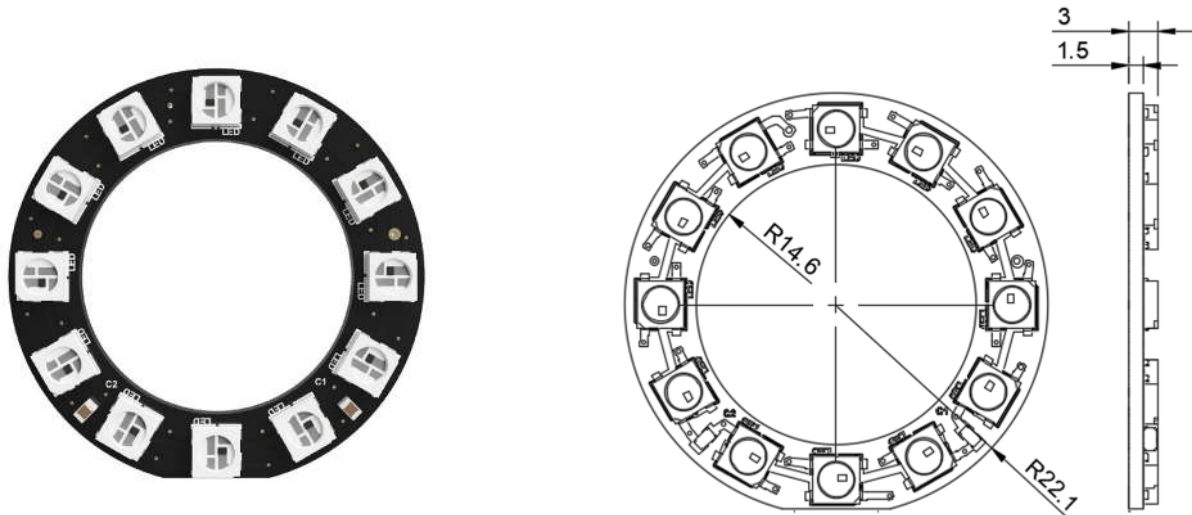
(Dimensions in mm)

Specification

- 3.5 to 5V DC
- 50mA per LED MAX with Red, Green and Blue at full brightness
- 6.86mm pitch between LEDs
- Wiring pads 2.54mm pitch
- LED wavelength 630nm/530nm/475nm
- Adafruit NeoPixel™ compatible

Circuit Overview

- This circuit has 12 programmable ZIP LED's chained in series.
- There are 8 connections (4 on each end of the PCB).
- DIN pin is for the data input.
- +5V & GND for connecting Voltage supply to the PCB.

Application

A typical application for the ZIP Circle, connect it to the ZIP Halo (Stock Code: 5625) and use the extra LEDs for customisation. For further information and details refer to "Using Kitronik 'ZIP' LEDs" document from kitronik.co.uk/blog/using-kitronik-zip-leds-bbc-microbit/