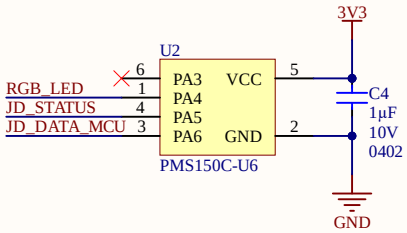
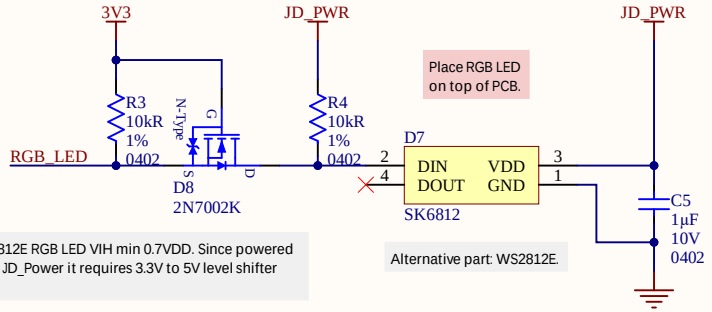
MCU



U2 must be programmed before being soldered down due to restrictive in-circuit programming requirements. JD_STATUS is PWM-capable GPIO.

RGB addressable LED

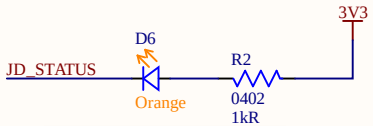


Place RGB LED on top of PCB.

WS2812E RGB LED VIH min 0.7VDD. Since powered from JD_Power it requires 3.3V to 5V level shifter

Alternative part: WS2812E.

Status LED



Place status LED on bottom of PCB.

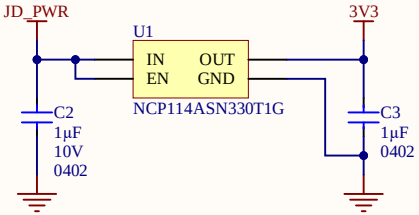
D6
Alternative part
SML-D12D
E6C0603SEAC1UDA
NCD0603O1

Jacdac modules require a status LED.

The LED can be monochrome or multicolor depending on GPIO availability

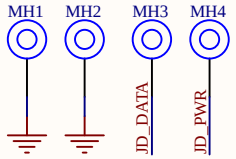
If using alternative part recalculate the resistor values R2

3V3 Regulator



U1 alternative parts:
ME6212C33M5G 6V 260mV @ 200mA Iout 350mA
NCP114BSN330T1G 5.5V 225mV @ 300mA Iout 300mA

Mounting holes



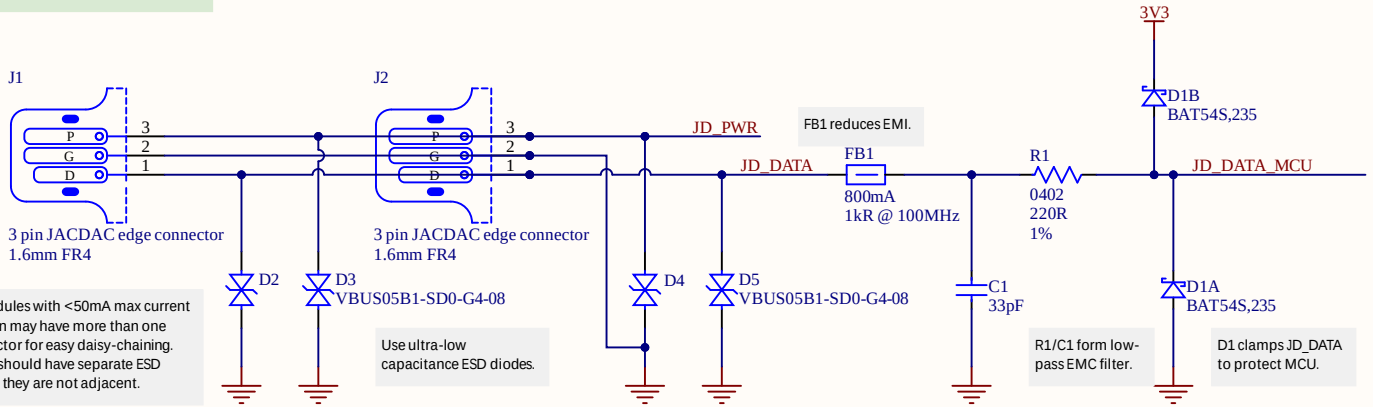
JACDAC mounting holes are plated through hole, finished diameter of 2.1mm, annular ring of 3.0mm diameter and copper/component keepout of 5.0mm. The mounting holes should be on 2.5mm pitch.

MH1 & MH2 : GND
MH3 : JD_DATA
MH4 : JD_PWR

Mounting holes should have appropriate silkscreen marker, and MH1 should have a pin 1 marker on the top side.

Jacdac modules require mounting holes. Modules mounting holes are electrically connected so that modules can be mounted on top of other PCBs without using cables.

JacDac connector



JACDAC modules with <50mA max current consumption may have more than one edge connector for easy daisy-chaining. Connectors should have separate ESD protection if they are not adjacent.

Use ultra-low capacitance ESD diodes.

ESD diode pair required for each Jacdac connector.

R1/C1 form low-pass EMC filter.

D1 clamps JD_DATA to protect MCU.

Silkscreen & layout notes

Block name

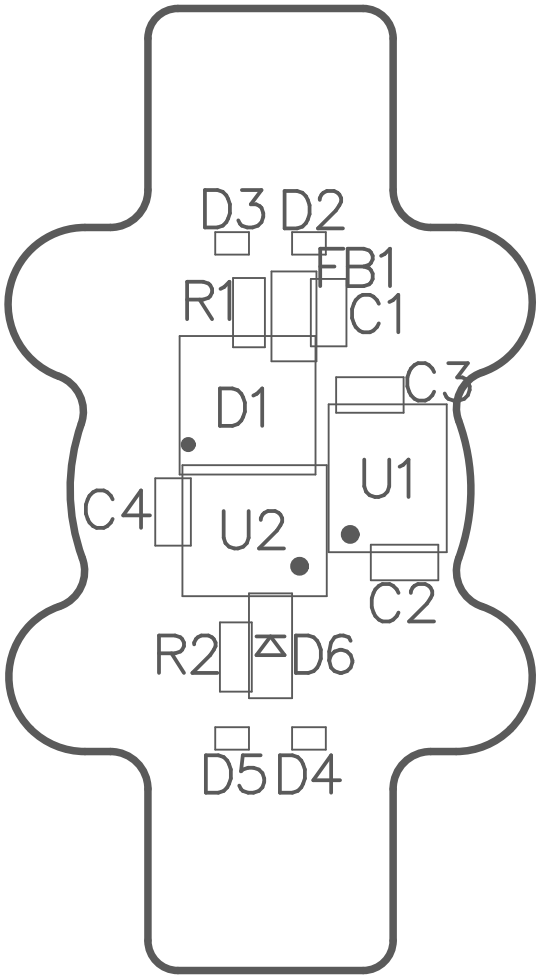
Design notes

This information is provided "as-is". You bear the risk of using it. Some information relates to pre-released specification which may change without notice. Microsoft makes no warranties, express or implied, with respect to the information provided here.

When this PDF is viewed with Adobe Reader, clicking on components shows part numbers and other details.

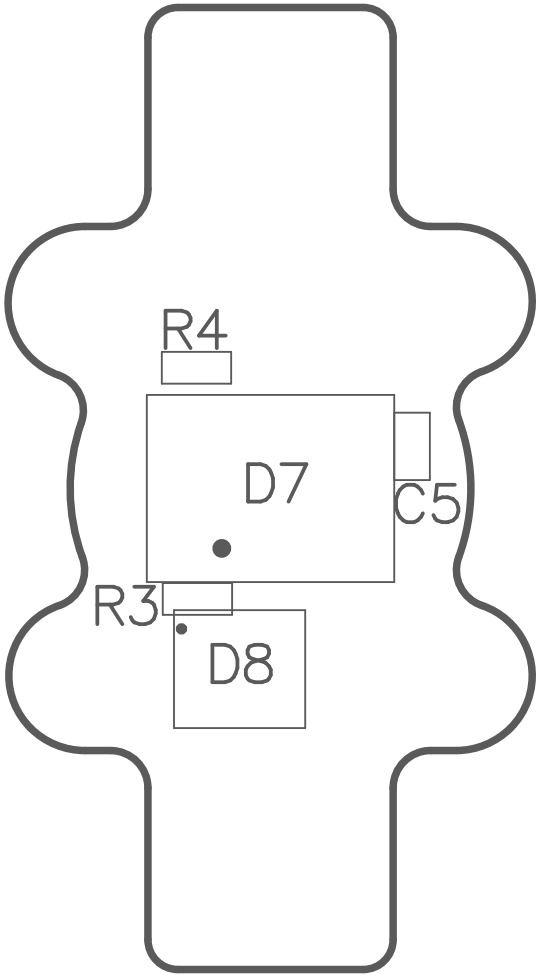
PROJECT FILENAME JacdacSingleRgbLed 42.PrjPCB	PROJECT CODENAME JacdacSingleRgbLed	Microsoft	PROJECT DESCRIPTION Jacdac Padauk single Addressable RGB LED
SHEET FILENAME JacdacSingleRgbLed 42.SchDoc	LICENCE Attribution 4.0 International (CC BY 4.0)	LAST MODIFIED 10/11/2021 PAGE 1 OF 1 DRAWN BY GD, JD, SH & DG	SHEET DESCRIPTION Complete design REVISION 0.3 PCB ID 42-0.3

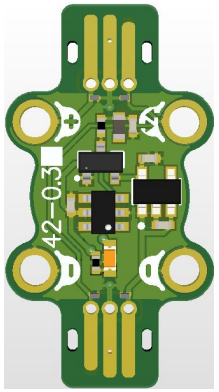
Board Outline
Top Assy



Board Outline

Bottom Assy

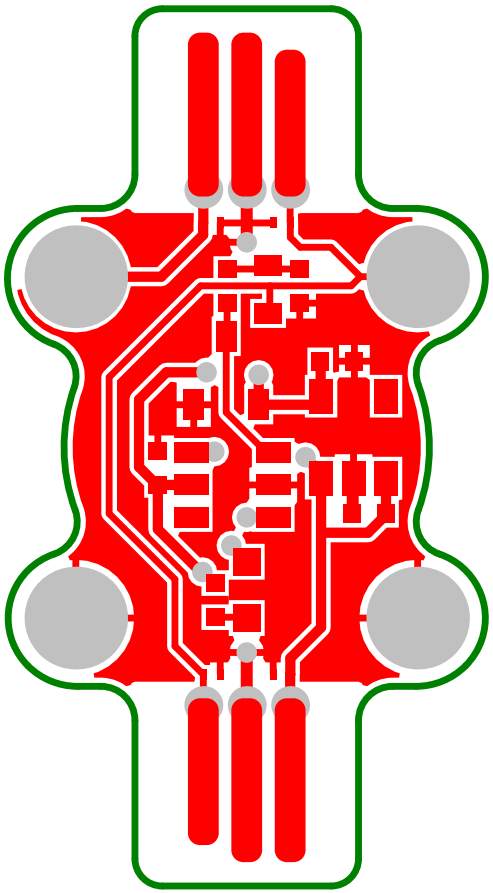



42-0.3


Single
RGB LED

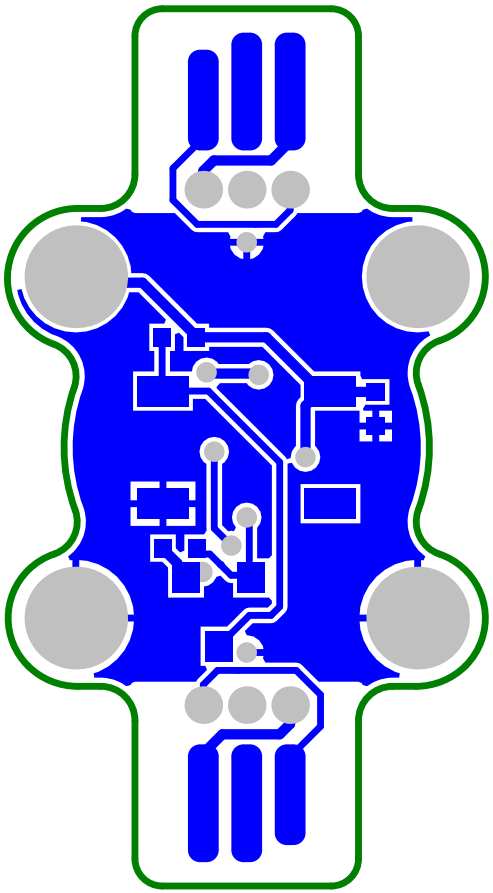
Top Layer

Board Outline



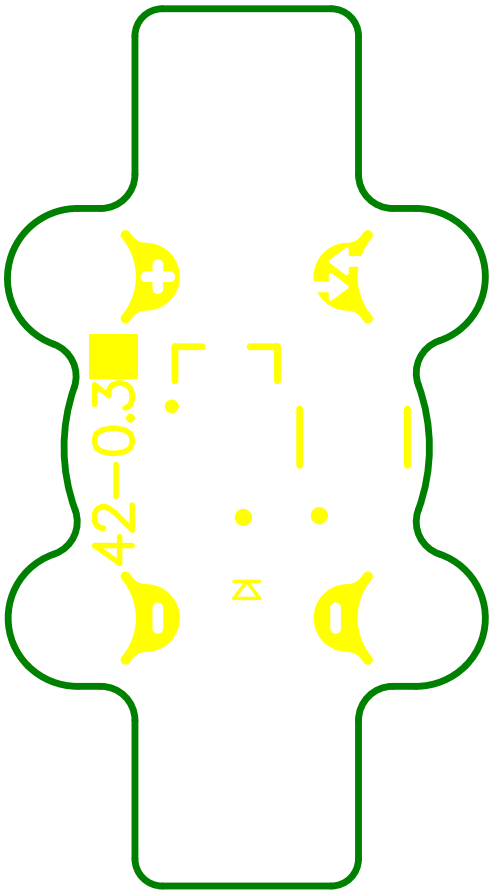
Bottom Layer

Board Outline



Board Outline

Top Overlay

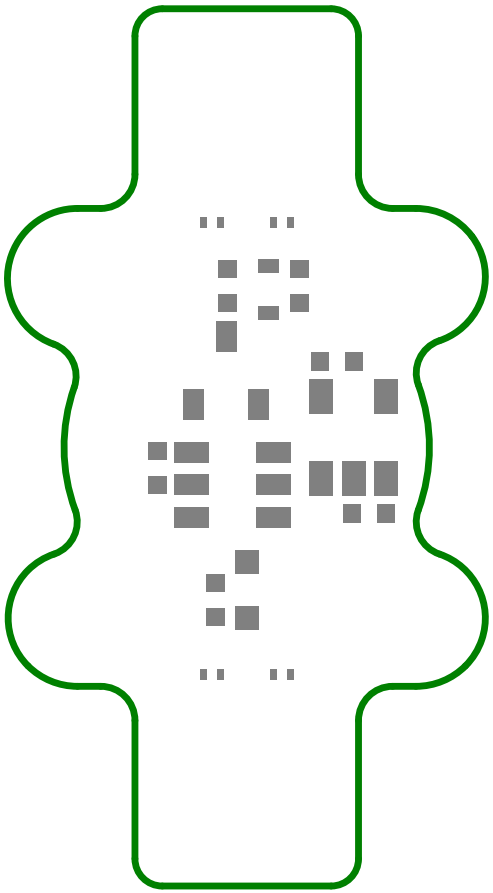


Board Outline

Bottom Overlay

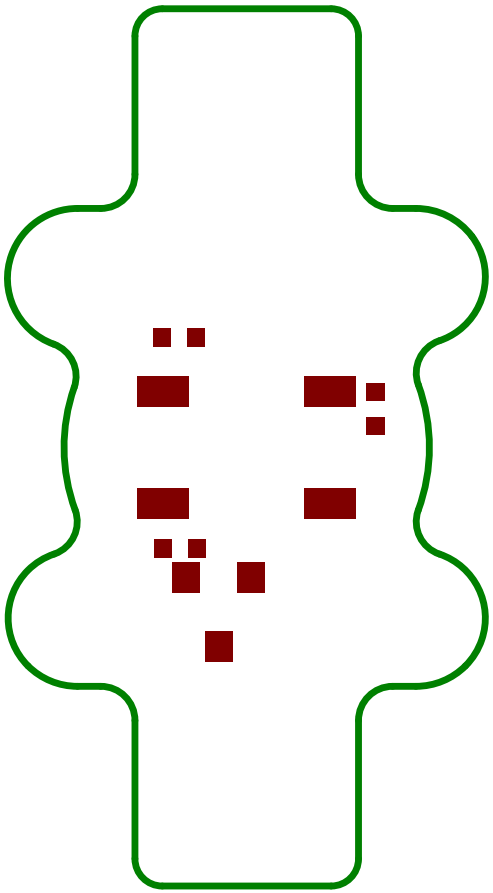
Board Outline

Top Paste



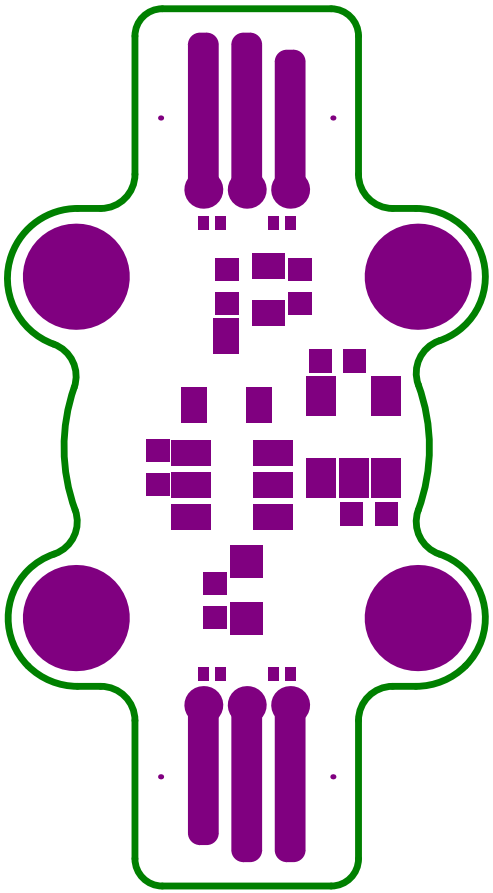
Board Outline

Bottom Paste



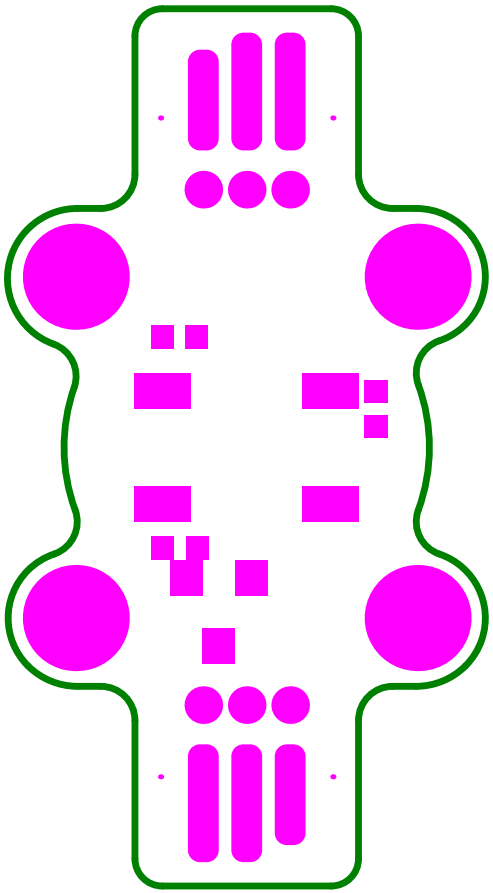
Board Outline

Top Solder (resist)



Board Outline

Bottom Solder (resist)



Board Outline