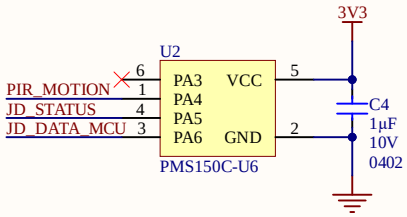
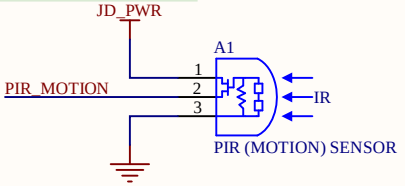
MCU

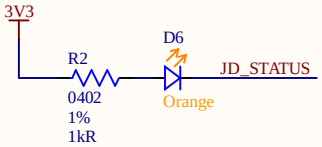


U2 must be programmed before being soldered down due to restrictive in-circuit programming requirements. JD_STATUS is PWM-capable GPIO.

PIR Motion sensor



Status LED



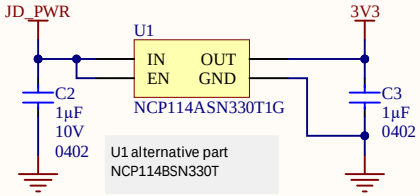
D6 alternative part
SML-D12D
E6C0603SEAC1UDA
NCD0603O1

Jacdac modules require a status LED.

The LED can be monochrome or multicolor depending on GPIO availability

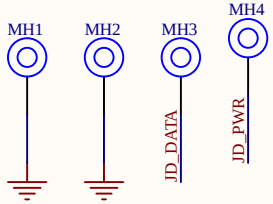
If using alternative part recalculate the resistor values R2

3V3 Regulator



U1 alternative part
NCP114BSN330T

Mounting holes



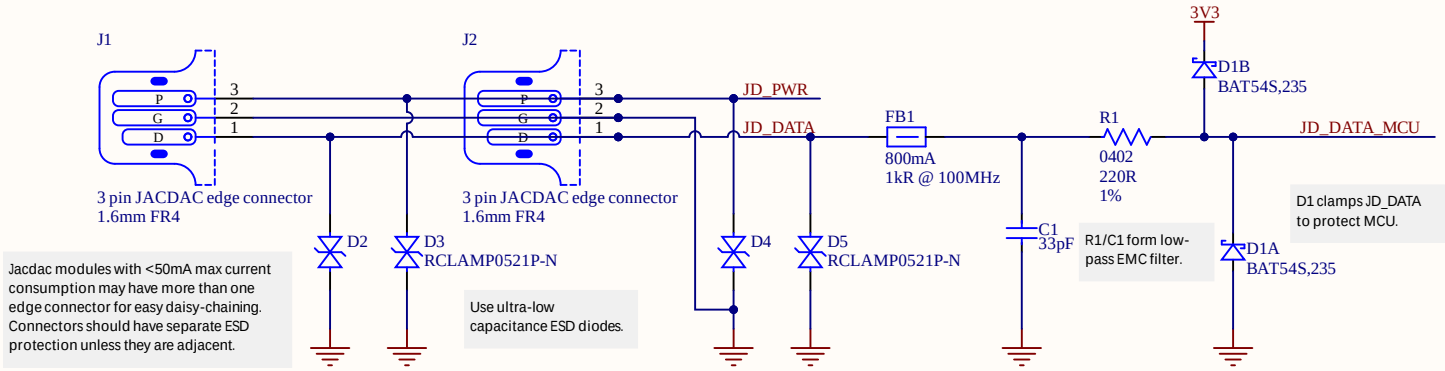
JACDAC mounting holes are plated through hole, finished diameter of 2.1mm, annular ring of 3.0mm diameter and copper/component keepout of 5.0mm. The mounting holes should be on 2.5mm pitch.

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 unless they are adjacent.

Use ultra-low capacitance ESD diodes.

R1/C1 form low-pass EMC filter.

D1 clamps JD_DATA to protect MCU.

Silkscreen & layout notes

Block name

Design notes

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

PROJECT FILENAME JacdacMotionDetection 54.PrjPCB	PROJECT CODENAME JacdacmotionDetection	Microsoft	PROJECT DESCRIPTION Motion detection based on low-cost OTP PADAUK MCU
SHEET FILENAME JacdacMotionDetection 54.SchDoc	LICENCE Attribution 4.0 International (CC BY 4.0)	LAST MODIFIED 10/11/2021 PAGE 1 OF 1 DRAWN BY DG, JD & SH	SHEET DESCRIPTION Complete design REVISION 0.2 PCB ID 54-0.2