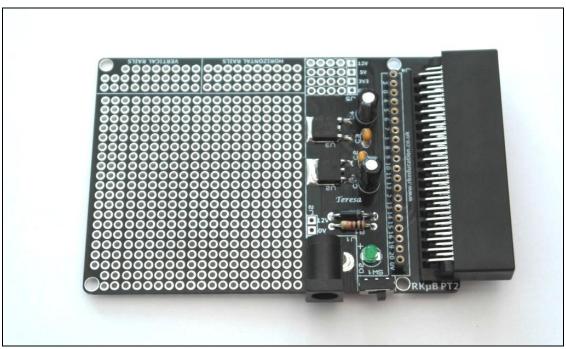
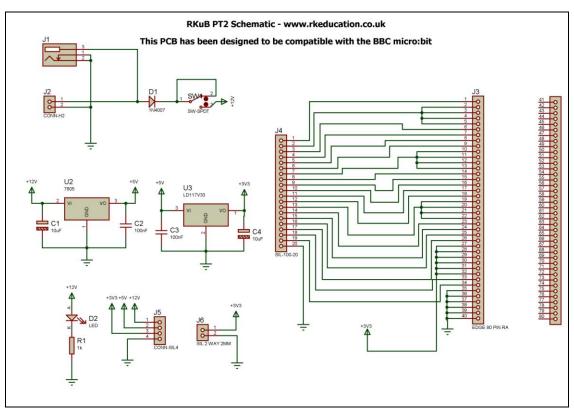
solutions for teaching and learning

RKuB PT2 Component List and Instructions



Constructed PCB



Schematic Diagram

solutions for teaching and learning

Description

The RKuB PT2 breakout PCB is a simple PCB and it has been designed to allow users to breakout the pins of their BBC micro:bit. The RKuB PT2 has a power switch and small prototyping area for extra flexibility. The RKuB PT2 has the added advantage over the RKuB2 as it has onboard power, it can be powered from a standard 12VDC power supply and the onboard regulators give 3V3 and 5V. The unit can still be powered from the micro:bit battery pack as the PCB includes the header. The PCB also has a very useful prototyping area making the PCB a self contained prototyping system.

Component List

C1, C4 - 10uF electrolytic capacitor

C2, C3 - 100nF multi layer ceramic capacitor

D1 - 1N400x diode

D2 - standard 3mm LED

J1 - 2.1mm DC socket

J2 - leave empty, can be used to supply 12VDC

J3 - RA 80 way connector

J4 - 20 way PCB header (either a plug or socket can be used)

J5 - leave empty, power rail

J6 - 2 way right angle 2mm JST connector

R1 - standard 1k resistor

SW1 - Ultra miniature slide switch

U2 - 7805 TO252 5VDC voltage regulator

U2 - LD1117V33 TO252 3V3 voltage regulator

Soldering

When soldering always start with the components with the lowest profile and end with the components with the highest profile. On the PCB start with the voltage regs and end with the 80 way connector. The surface mount regs are very simple to solder but if you need guidance please look on YouTube, there are 100s of video clips about soldering. With the 80 way connector it is best to solder the connector in place by soldering 2 pins from opposite corners, this secures the header in place.

solutions for teaching and learning

Connecting Power

Power can be either 12VDC or from a 3V battery pack and there is a power switch available. If a battery pack is used then is connected via the 2 way JST connector but the power section of the circuit will not work, the intention is that a 12VDC supply with a 2.1mm plug is used. There are power rails on the PCB labelled 12V, 5V, 3V3 and 0V, (the 12VDC value will depend on the actual power supply output and the effect of the input diode, use a DVM to confirm). The power rails are useful when for example you are interfacing to peripheral devices on the prototyping area, power can be taken from the RKuB2 and connected to power external peripherals. The voltage regulators will give sufficient current to power a wide range of peripherals.

Using the RKuB PT2

The RKuB PT2 is a simple breakout board and how you use it will depend on what you are doing with it. Breakout the pins of your micro:bit using jumper wires and connect to the prototyping ares to control peripherals, for example motors, control ICs, optoelectronics etc. The best place to go for hints and ideas is a forum where users share information and ideas.

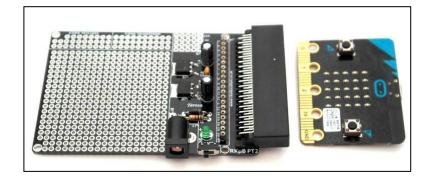
We have other PCBs and kits available for the BBC micro:bit and also for Arduino, Atmel, PIC, PICAXE, Raspberry PI and we stock a wide range of electronic project PCBs and kits.

Please visit our website

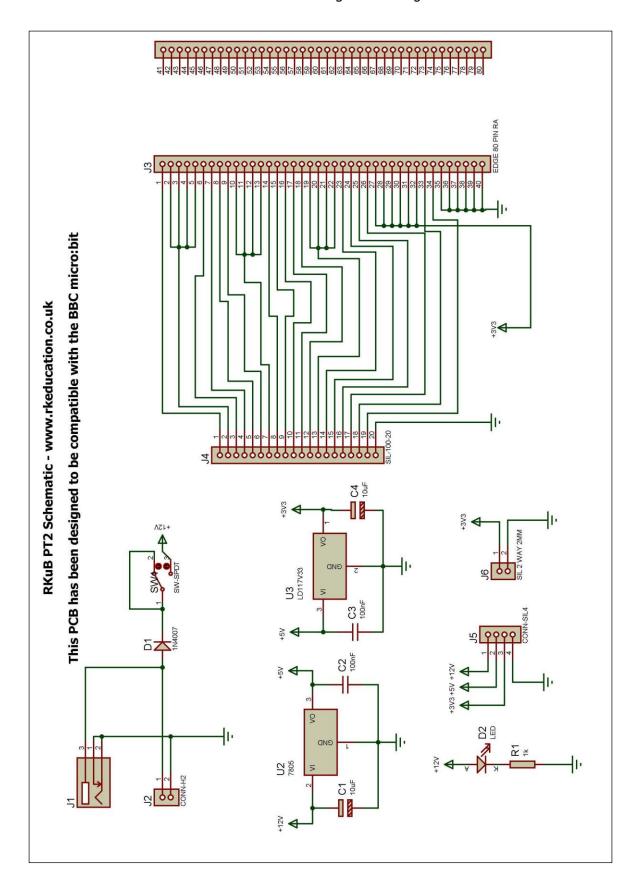
www.rkeducation.co.uk

If you have any comments or queries please email us at

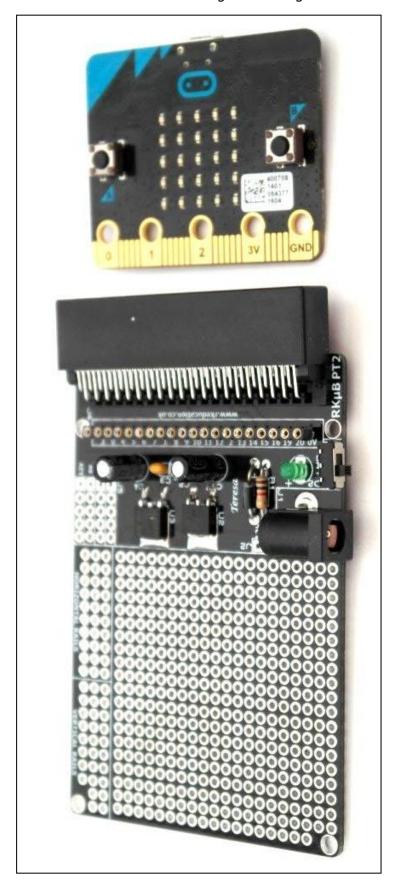




solutions for teaching and learning



solutions for teaching and learning



solutions for teaching and learning

