REKA:BIT
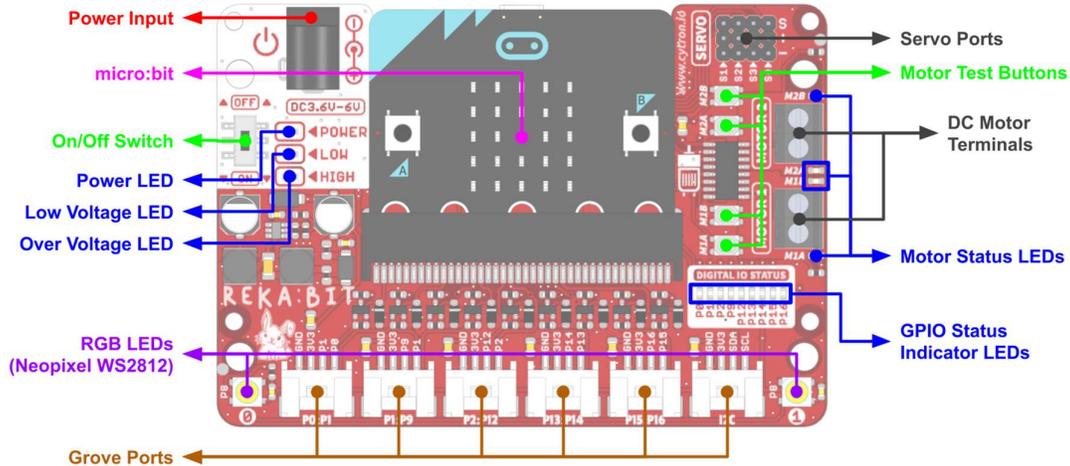# Simplifying Robotics with micro:bit

Datasheet

Rev 1.0
April 2021

1. BOARD LAYOUT & FUNCTION

Figure 1: REKA:BIT Board Functions

Function	Description
Power Input	Connect to DC power source from 3.6V to 6V.
micro:bit	Insert the micro:bit board here.
On/Off Switch	Turn On/Off the power.
Power LED	Turn on when powered up.
Low Voltage LED	Blink when the power input voltage is below 3.6V. Can be used as the low battery indicator.
Over Voltage LED	Turn on if the power input voltage is over 7V. The power to the servos and DC motors will be cut off too.
RGB LEDs (WS2812)	User programmable WS2812B RGB LED. Connected to P8.
Grove Ports	Connect to external Grove modules - 3x Analog Input/Digital IO - 2x Digital IO - 1x I2C Interface
GPIO Status LEDs	LED indicators for micro:bit GPIOs on Grove Ports. Turn on when the GPIO state is high.

Function	Description
Motor Status LEDs	Turn on when the motor is running. ● MxA : Forward* ● MxB : Backward*
DC Motor Terminals	Connect to the motor terminal. Motor voltage at full speed is equal to power source voltage. Motor direction is depending on the polarity.
Motor Test Buttons	Press to test the functionality of the motor driver. Motor will run at full speed. ● MxA : Forward* ● MxB : Backward*
Servo Ports	Connectors for 4 x RC servo motors. V+ voltage is equal to power source voltage.

Table 1: REKA:BIT Board Functions

∗   *Actual motor direction is depending on the motor connection.*
    Swapping the connection (MxA & MxB) will reverse the direction.

2. SPECIFICATIONS

No	Parameters		Min	Max	Unit
1	Power Input Voltage		3.6	6	V
2	Analog Input Voltage		0	3.3	V
3	Total +3V3 Output Current (Grove Ports)		-	300	mA
4	Maximum DC Motor Current	Continuous	-	1	A
		Peak (< 5 seconds)	-	1.5	A

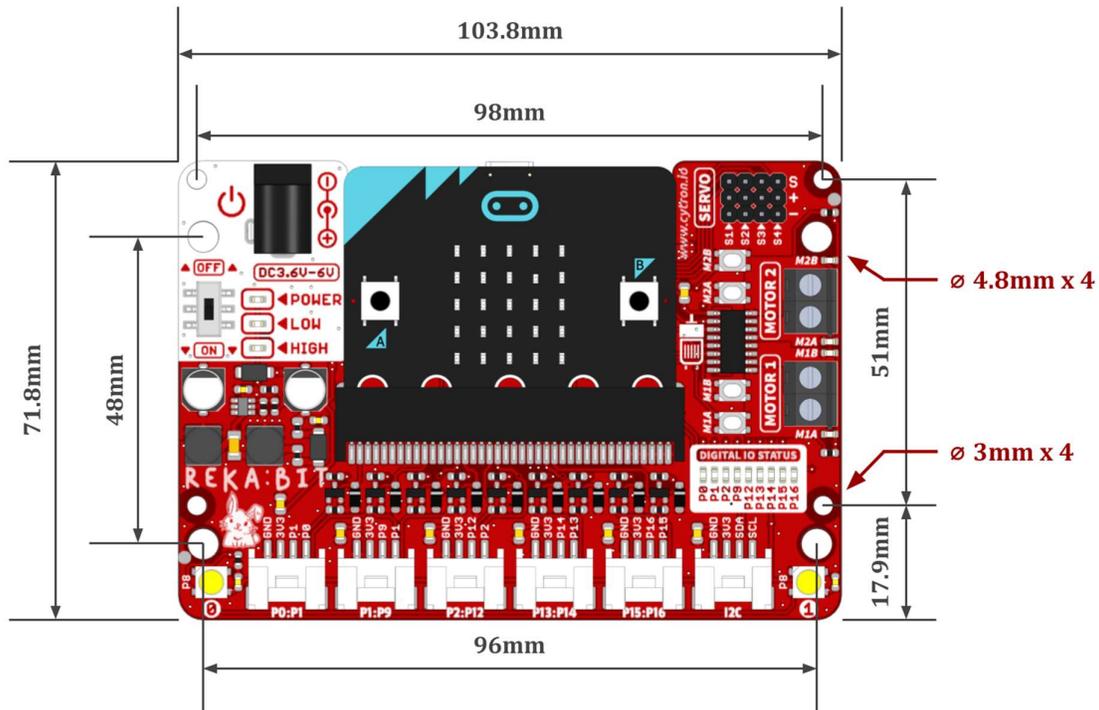*Table 2: REKA:BIT Absolute Maximum Ratings*

3. DIMENSION

Figure 2: REKA:BIT Dimension

Prepared by:

Cytron Technologies Sdn Bhd
www.cytron.io
No. 1, Lorong Industri Impian 1,
Taman Industri Impian,
14000 Bukit Mertajam,
Penang, Malaysia.

Tel: +604 - 548 0668
Fax: +604 - 548 0669

Email:
support@cytron.io