ESP-BoB Kit

1 DESCRIPTION

The *ESP-BoB Kit* is an unassembled kit designed to interface with ESP development boards, and other similarly sized boards. *BoB* stands for "Breakout Board", which is exactly what this product does.

The central double row female headers can accept many of the common microcontrollers, up to 20 rows in length and between 8 to 10 rows spacings in width (20.32 mm, 22.86 mm, 25.40 mm). The breakouts on both sides include a footprint for a row of female header, a row of male header, and a row of screw terminals.
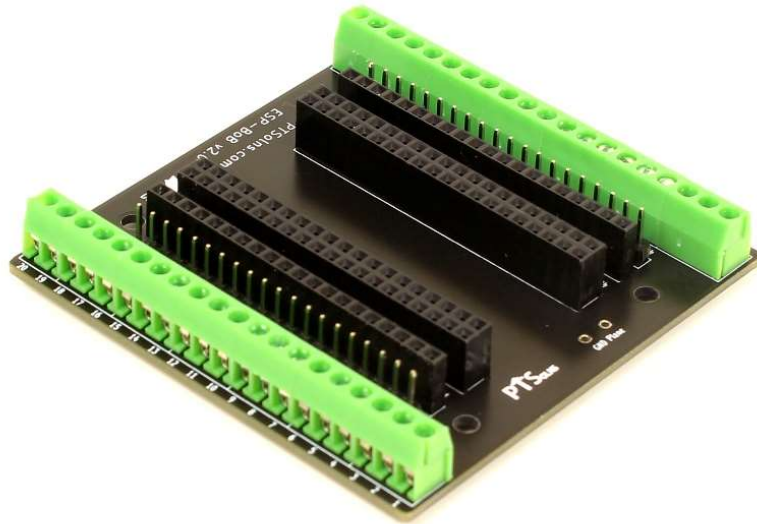

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2 DOCUMENT REVISION HISTORY

Current document revision is Rev 0.

3 PRODUCT FEATURES

This section highlights notable features of the *ESP-BoB Kit*.

3.1 Compatibility

Due to the double row female header interface, the *ESP-BoB* is compatible with a range of products. The board can interface any product up to 20 pins in length at standard 2.54 mm/0.1 in pitch and with three different widths. The widths are:

- 8 Pin spacing = 20.32 mm
- 9 Pin spacing = 22.86 mm
- 10 Pin spacing = 25.40 mm

The physical dimensions of the *ESP-BoB* are shown Figure 4.

As an example, Figure 1 shows a commonly used ESP32 development board plugged into the *ESP-BoB*. This particular ESP32 development board has a row spacing of 19 pins, and a width of 10 pins (= 25.4 mm). Since the breakout of the *ESP-BoB* is generic, all the pins are simply numbered and not assigned. This is done because many different ESP32 development boards have a different pin assignment.
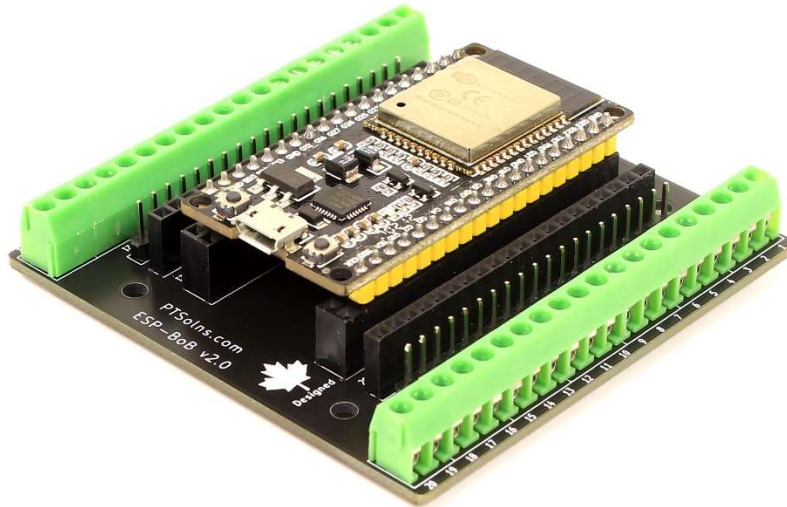

Figure 1: Example application.

3.2 Features of the *ESP-BoB*

The features of the *ESP-BoB* are graphically shown in Figure 2. All the pins are broken out on either side with a footprint for a row of male header pins, a row of female header pins, as well as a row of screw terminals. Additionally, there are two pinouts available for the ground planes (top and bottom combined) of the board. There are four mounting holes.
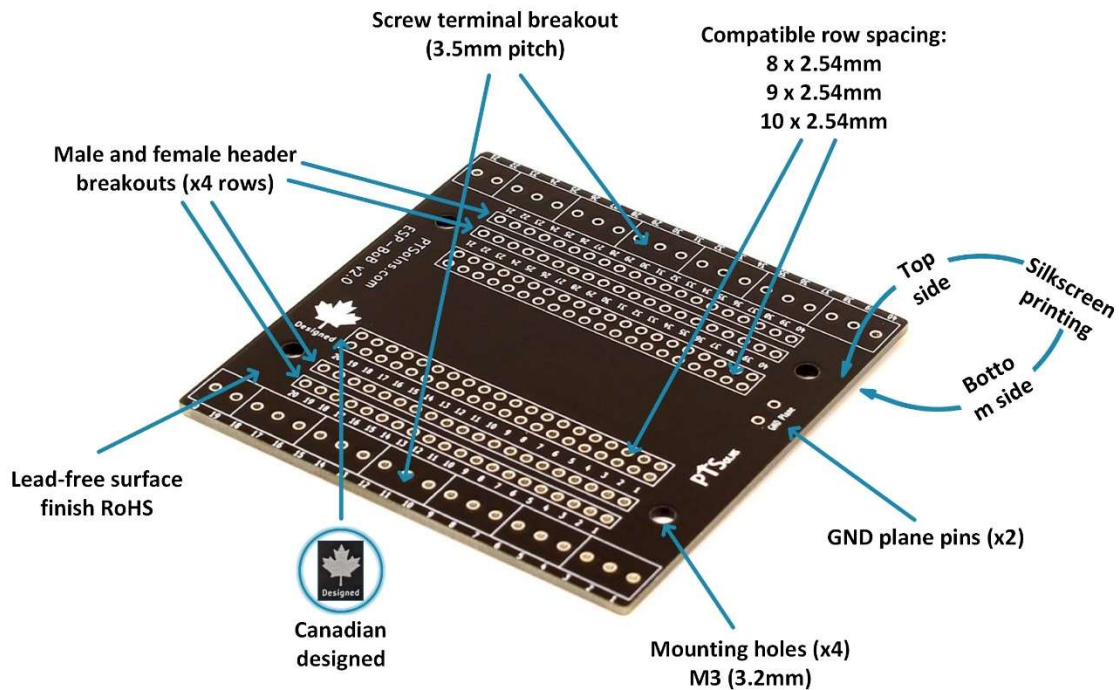

Figure 2: Features of the ESP-BoB.

3.3   Mark of Authenticity

Authentic PTSolns PCBs have a black solder mask color and are marked with the "PTSolns" logo in white silkscreen printing. The "Canadian Designed" symbol, consisting of the Canadian Maple Leaf with the word "Designed" underneath, can also be found on the PCB in white silkscreen printing. The "PTSolns" trademark and the "Canadian Designed" symbols are shown in Figure 3.
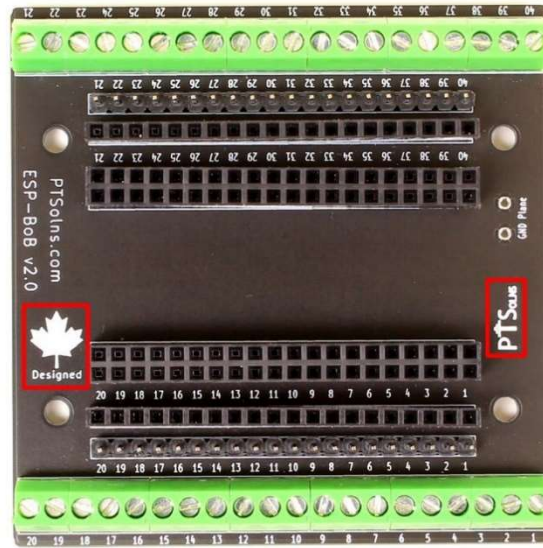

Figure 3: The "Canadian Designed" symbol found on authentic PTSolns PCBs.

4 PHYSICAL PROPERTIES

The physical properties of the *ESP-BoB* (PCB only) are outlined in Table 1.

Table 1: Physical Properties.

|	Quantity	Value	Reference
PCB	Length	71.4 mm	Figure 4
	Width	71.7 mm	Figure 4
	Thickness	1.6 mm	Figure 4
	Corner radius	1.0 mm	Figure 4
	Weight (without headers/connectors)	17 g	--
	Color	Black	--
	Silkscreen	White	--
Mounting			
	Mounting hole diameter	3.2 mm	Figure 4
	Mounting hole center-to-center distance along length	59.5 mm	Figure 4
	Mounting hole center-to-center distance along width	36.1 mm	Figure 4
Material	Lead free HASL-RoHS surface finish	--	--
	FR-4 base	--	--
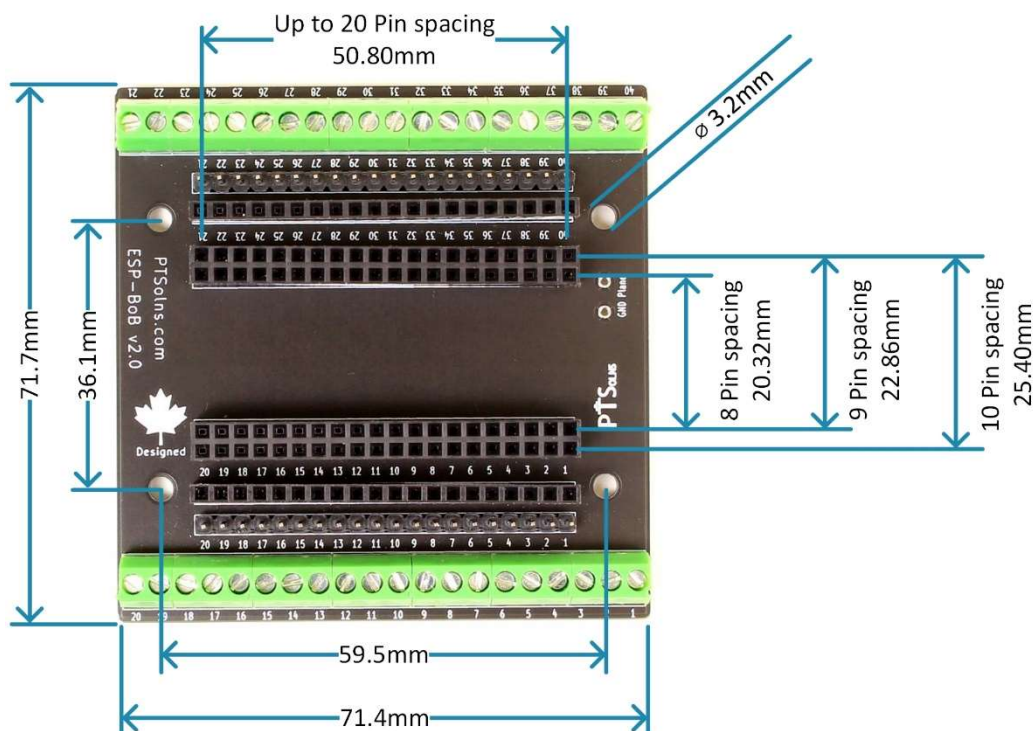
Figure 4: Dimensions of the ESP-BoB.

5   ELECTRICAL PROPERTIES

Electrical properties are outlined in Table 2. Electrical connections made by copper traces are shown in Figure 5. Copper traces have a weight of 1 oz/ft^2.

Table 2: Electrical Properties.

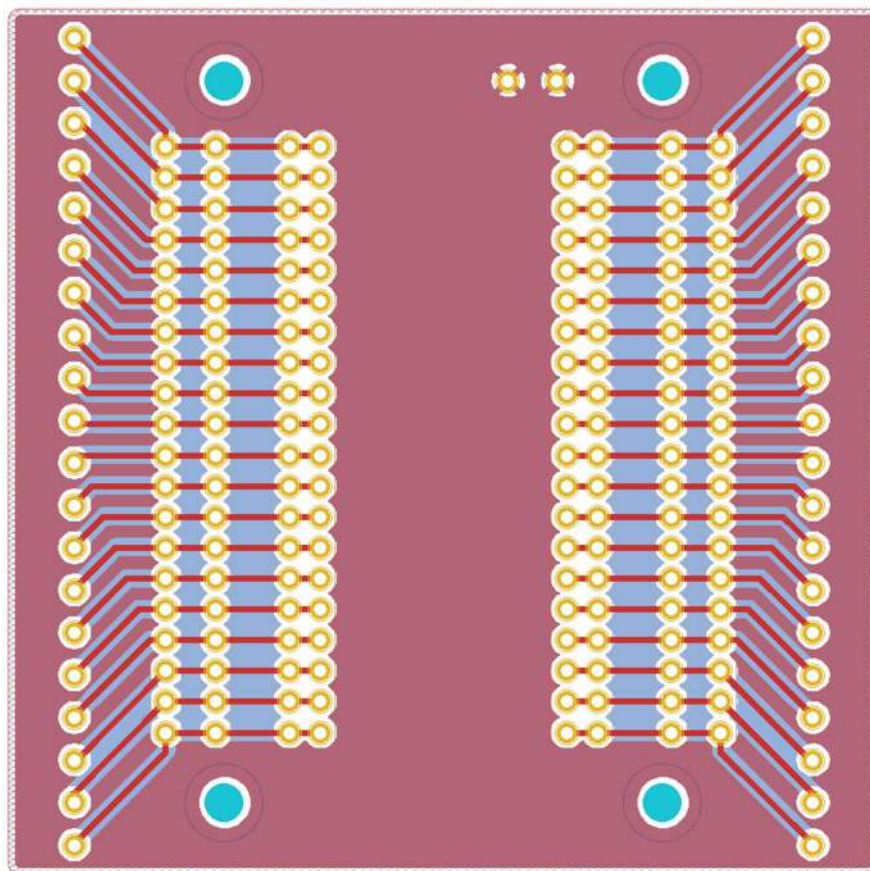| Quantity	Value
Current rating	0.6A

Figure 5: Electrical connections of the ESP-BoB.

6 KIT PACKAGE CONTENTS

The following items are included in the *ESP-BoB Kit*. **This kit comes unassembled.**

This kit includes:

- 1pc PCB PTSolns *ESP-BoB*
- 12pcs 3.5mm 3-pin screw terminals
- 2pc 3.5mm 2-pin screw terminal
- 2pcs 2.54mm/0.1in, 1x20 pin female header
- 2pcs 2.54mm/0.1in, 2x20 pin female header
- 1pc 2.54mm/0.1in, 1x40 pin male header
    - User can easily break the full male header pins into two sections of 20 pins.