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## BeagleBoard Power supply BPS-5

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### Description

The power supply BPS-5 is designed to fit into BeagleBoard solderless breadboard or to be used independently. The BPS-5 board connects to the breadboard using four 4-pin connectors located in corners of the board. It also has 4 mounting holes for securing the board if it is used not as part of breadboard system. The board is protected from incorrect supply polarity, has power-on indicator and convenient ground hook-up for test equipment.

### Features

**Input:** 8-20 V, 1A, center-positive plug 2.1 x 5.5 mm

**Output:** 5V regulated supply, 1A max current.

### Assembly

The circuit diagram is shown in Figure 1 and layout of components is in. Before assembly you will need to bend leads of IC1 and D1. If you are planning to use a heat sink for IC1 (not included) mount IC1 in upright position to facilitate attachment of the heat sink. Be careful to insert D1 and LED1 in correct polarity. The polarity of D1 is indicated by band, align band on the diode with the band on silk screen. LED1 has anode lead shorter than cathode, insert LED1 so that longer lead is connected to +5V trace. Board power connectors have 2 contacts for ground and 2 contacts for +5V. When BPS-5 board is oriented as in Figure 2, the ground is connected to lower 2 pins of every 4-pin connector.

All other components can be mounted in any orientation. After soldering the board, visually inspect the board and plug it into an empty breadboard. Turn power switch to OFF position (slide up) and attach wall adaptor. Turn power on and confirm that BPS-5 output is 5V. Your BeagleBoard power supply is ready to use!

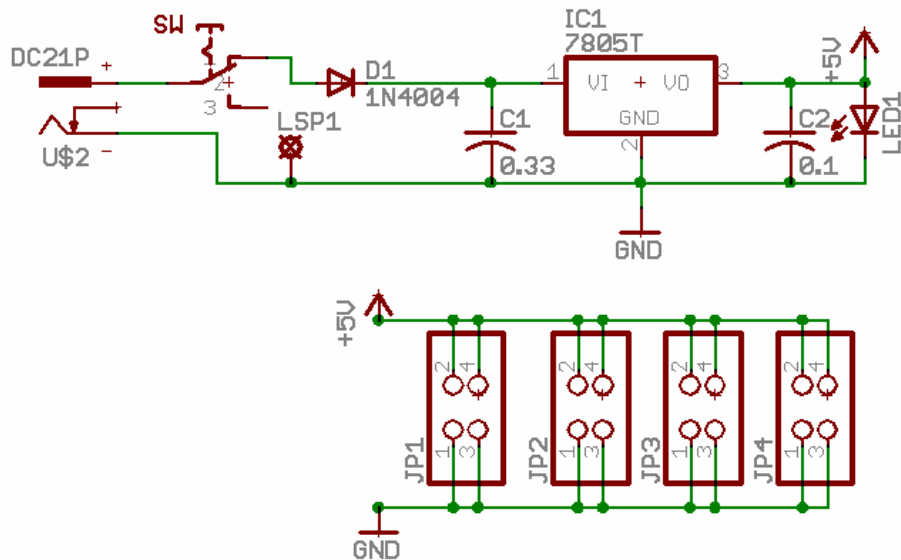


Figure 1. Circuit diagram of BPS-5

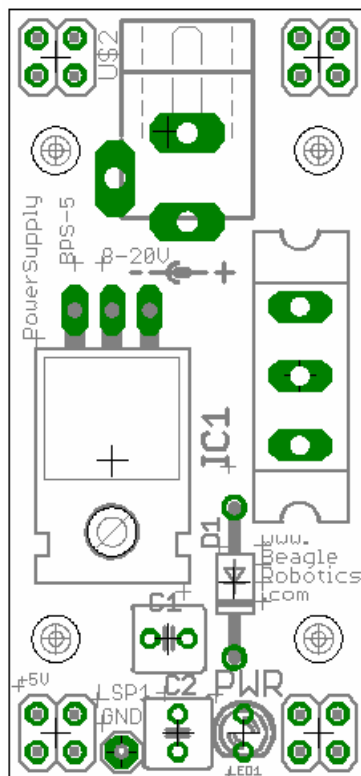


Figure 2. Component layout on the board. Top (component) side is shown.

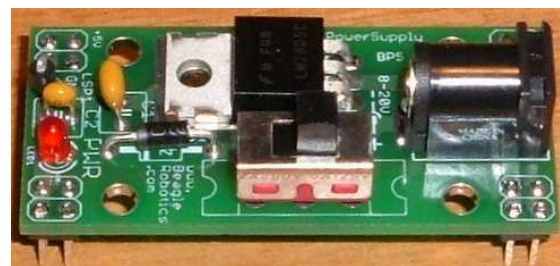


Figure 3. Assembled board