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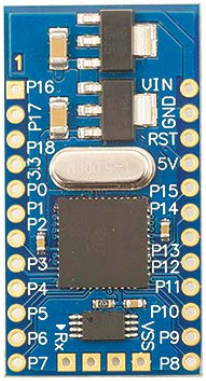
Propeller Mini (#32150)

The Propeller Mini is a low cost solution for embedding a controller in hard to reach places, where a full sized development board is not practical. Though small in size and component count, it has the necessary features that you would look for in a control board. You can solder wires and leads directly to the through holes on the board, or solder in a male or female header for easy connectivity to a breadboard or prototyping board.

Features

- Propeller P8X32A-M44 multi-core microcontroller
- 64 KB EEPROM for program storage
- Removable 5 MHz crystal
- Access to 19 general-purpose I/O pins
- 40-pin male/male header included
- Onboard voltage regulators provide 3.3 VDC regulated output @ 400 mA max, 5 VDC regulated output @ 600 mA max



Key Specifications

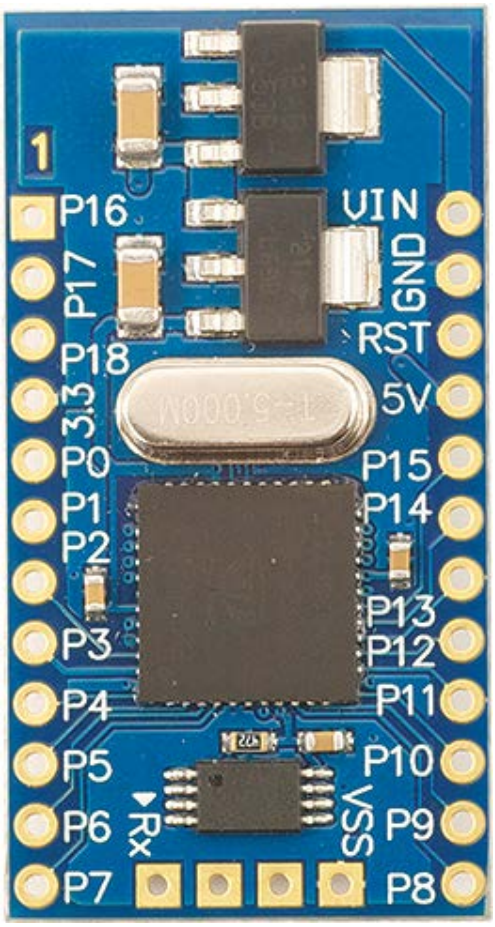
- Power requirements: 6.5 to 12 VDC through VIN Pin
- Communication: Prop Plug for programming (not included)
- Operating temperature: -40 to +185 °F (-40 to +85 °C)
- PCB dimensions: 0.81 x 1.52 in (20.5 X 38.6 mm)

NOTE: Programming the Propeller Mini requires a Prop Plug and USB A to Mini B cable (Parallax #32201), not included. You may optionally solder a section of the single-row header to the four pins on the bottom edge of the Propeller Mini to accommodate the Prop Plug's 4-pin female socket.

CAUTION: Although it is of a similar size and form factor, the Propeller Mini is not pin-compatible, nor code-compatible with the discontinued Spin Stamp (Parallax #SS1-IC). Do not attempt to plug a Propeller Mini into any socket meant for a 24-pin BASIC Stamp module.

Pin Definitions & Assignments

Pin	Definition/Assignment
P0-P18	General-purpose I/O
P28-P29 SCL & SDA	P28 = I²C Clock, P29 = I²C Data Connects to 32 KB EEPROM for non-volatile program and data storage
P30 & RX	RX serial communication to USB. Used on Prop Plug Connection.
P31 & TX	TX serial communication to USB. Used on Prop Plug Connection.
RST	Propeller reset pin, inverted. Pulled to VDD. Driven low on internal reset. Drive low to externally reset the Propeller.
5V	5 V Regulator output. Do not draw more than 600 mA if also using the 3.3V output, as the 3.3 V regulator can use up to 400 mA of the 5 V regulator's output.
3.3	3.3V Regulator output. Maximum current draw of 400 mA.
VSS	Ground
GND	Ground
VIN	Voltage Input: regulated 6.5–12 VDC @ 1A



Programming the Propeller Mini

The 4-pin programming connection along the end of the board is designed to use with a 4-pin header plugged into the Prop Plug. You may optionally solder the 4-pin header directly to these through holes. However, these through holes were deliberately designed with slightly tighter spacing than the typical 0.1" spacing, to provide a friction-fit for a 4-pin header. This allows you to plug in the Prop Plug for programming and/or communication and remove it again without the need to solder and unsolder.

Tip: for programming the Propeller Mini with Propeller GCC, choose the GENERIC board type. Board type can be selected in the Project Manager pane of SimpleIDE.

Resources and Downloads

Find the latest version of this document, the PCB schematic, and other resources on the Propeller Mini product page. Go to www.parallax.com and search by product number: 32150.

Revision History

V1.1: added "Programming the Propeller Mini paragraph, above.
V1.2: EEPROM upgraded to 64 KB. Boards purchased before 1/21/2014 feature a 32 KB EEPROM.

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