

USB TINYSHIELD

ASD2101-R-T



DESCRIPTION

The USB TinyShield lets you connect your TinyDuino via a micro-USB connector. It uses the very popular FTDI FT231X USB to Serial converter IC (as used on most standard Arduino models). Using this board allows you to download new sketches via the Arduino IDE to your TinyDuino, and also allows you to add USB communication capabilities to your projects. This board supports RX and TX status LEDs so you can visualize the serial traffic to and from your TinyDuino.

The USB TinyShield is available in two variations on where the USB cable can plug in. Most TinyShields are square, which makes plugging in the USB cable simple to do at any angle. However, there are some TinyShields that are not square, so depending on their dimensions this can make plugging in the USB cable difficult. For example: the WiFi TinyShield is long, so a side mount version of the USB connector works best for this. The TinyScreen is wide, which works best with the top mount version of the USB connector.

- **Side USB Connector** - The micro USB connector will come out the left side of the TinyDuino stack. This works well for all TinyShields, except the TinyScreen and the Proto Terminal Block TinyShield.
- **Top USB Connector** - The micro USB connector will come out the top side of the TinyDuino stack.

This board also uses the DTR line from the FTDI IC to support the auto-reset function when a new sketch is downloaded to the processor – eliminating the need for you to hit the reset button to reprogram your TinyDuino.

*To learn more about the **TinyDuino Platform**, click*

<https://tinycircuits.com/pages/tinyduino-overview>

TECHNICAL DETAILS

- USB 2.0 Full Speed Compatibility
- Micro-USB Receptacle
- Entire USB protocol handled on the chip - No USB-specific firmware programming required.
- Transmit and receive LEDs
- 300 baud to 115200 baud supported

TinyDuino Power Requirements

- Voltage: Supplies +5.0V to the TinyDuino stack
- Current: 300mA max.

Pins Used

- **0 - USB_RX:** The signal is the UART receive on the TinyDuino from the USB
- **1 - USB_TX:** The signal is the UART transmit from the TinyDuino to the USB

Dimensions

- 20mm x 20mm (.787 inches x .787 inches)
- Max Height (from lower bottom TinyShield Connector to upper top TinyShield Connector): 5.11mm (0.201 inches)
- Weight: 1.2 grams (.04 ounces)

NOTES

- If you are brand new to the TinyDuino, buying a kit is the best way to go since it will have all the parts needed. Check out the TinyDuino Kits.
- By default this board will supply +5V to the TinyDuino stack. It is possible to change this to only output 3.3V instead (with a max current of 50mA), by removing moving the 0 ohm resistor from the R4 position to the R5 position (requires advanced soldering skills).
- Revisions of this board before Rev 6 had a breakout for an Atmel ICSP connector to allow for In-circuit programming using a ICSP programmer. These connections are no longer present on this board but can be accessed using a **Proto TinyShield**