# TinyDuino Processor Board - ASM2001-R
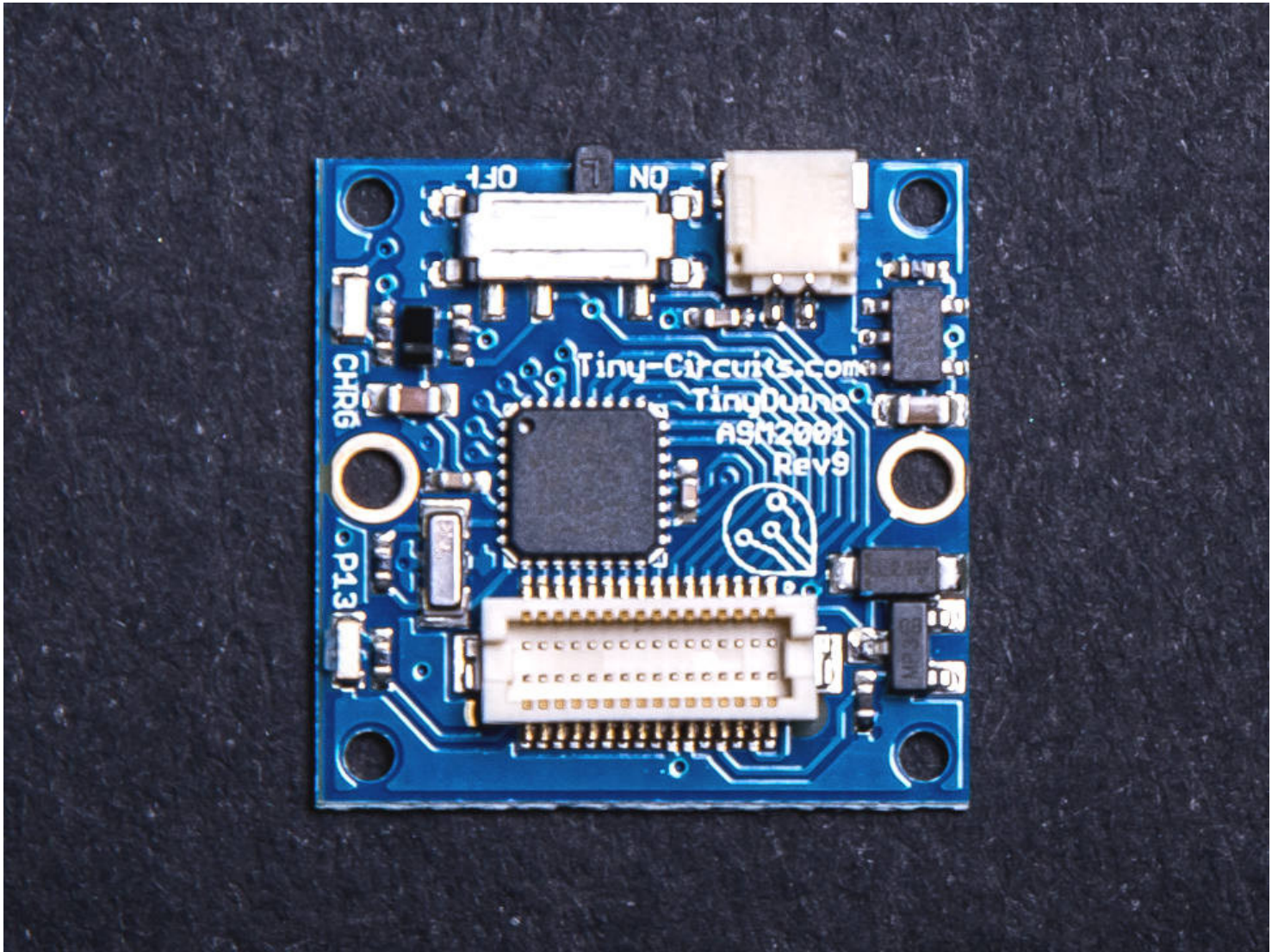
## DESCRIPTION

The TinyCircuits TinyDuino is an Arduino compatible board in an ultra compact package. The TinyDuino processor board is roughly equivalent to the Arduino Uno board – same processor, same signals brought out to a shield connector. In fact, most Arduino sketches will work as is without any changes.

The TinyDuino Processor Board is available in three variations:

- **With Lithium Battery Support** - has an on-board Lithium battery charger that will charge the battery when attached to USB
- **With coin cell battery support** - for low power applications, use a simple CR1632 coin cell battery that can be easily changed
- **Without battery options** - the lightest band lowest cost option

**Main Features:**

- **Atmega328P processor (same as is used on the Arduino Uno)**
- **Power Switch**
- **Status LED**
- **8MHz ceramic resonator**
- **External power supported with a 0.1″ power connection holes**
- **Supports automatic switching between +5V and VBATT (if +5V is present, it will be used instead of the battery)**

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

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## TECHNICAL DETAILS

- Arduino Compatible
- Expandable with Stackable TinyShield Boards
- Optional battery connector for CR1612-CR1632 coin cell batteries
- Optional Lithium battery connector and charger
- 0.1″ spaced solder holes for external power source
- Robust Gold Finish – makes soldering easy and is non-corrosive
- Ultra compact size and weight (smaller than a US Quarter!)

    - 20mm x 20mm (.787 inches x .787 inches)
    - Max Height (without battery holder): 2.9mm (0.12 inches)
    - Max Height (with coin cell battery holder): 6.58mm (0.26 inches)
    - Ultra-thin 0.61mm (0.024 inches) PCB
    - Weight: 1.10 grams (0.039 ounces) - Lithium version

- Atmel ATmega328P Microcontroller

    - 32KB Flash, 2KB RAM, 1KB EEPROM
    - 1.2mA (typical) @ 3V, 4MHz
    - Default Clock speed: 8MHz

- 2.7V – 5.5V operating voltage
- 20 I/Os (14 Digital, 6 Analog / Digital I/O) – All the signals on the Arduino Shield connectors are supported!
- Arduino Bootloader preprogrammed (uses approx 0.5 KBytes of Flash Memory)

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## 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 **here**
- All batteries are sold separately
- To program this board, you need to use the **TinyShield USB Board**