## Kit parameters:

Power supply voltage: DC 5 -- 12V (above 9V, the middle four LEDs will be on)

Recommended voltage: DC 9V

Working current: 35mA (external power supply, self-contained)

TZT Standby current: 1.2 MA (powered by backup battery)

Backup battery: CR2032 (3V)

#### **Function introduction:**

This kit uses three two digit nixie tubes to display the hour, minute and second of time respectively, and uses two small LEDs to replace colons for interval. The use of single-chip microcomputer programming control display, the use of timer for timing, with high accuracy, the time can be adjusted through a key, and there is also a memory battery. When the main power supply is disconnected, the time is still going (nixie tube does not display). It is practical.We Are The Distributor Of TZT Brand In Hong Kong, China

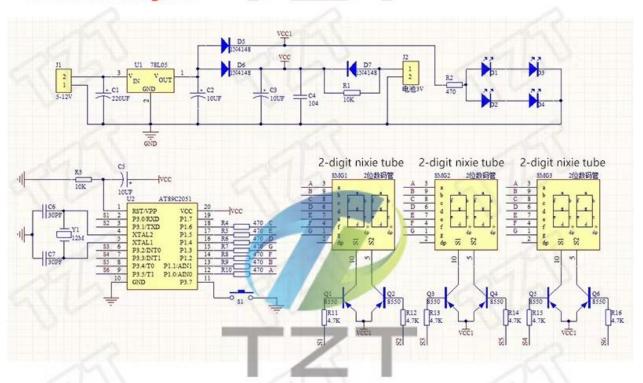
#### Use reminder:

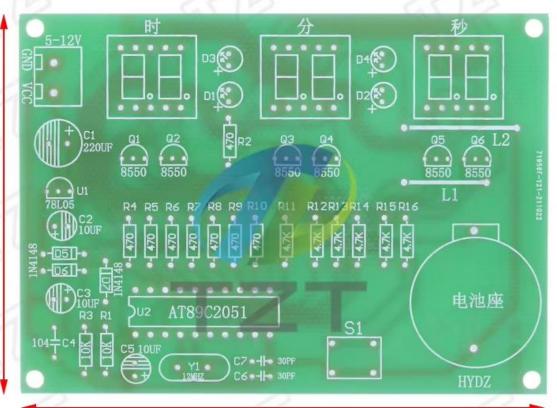
If the nixie tube display is abnormal, please disconnect the power supply, remove the backup battery, and then reinstall it. After power on, it will return to normal. If you use the main power supply for a long time, please remove the R1 resistance, that is, you can not weld the R1 resistance. The existence of R1 resistance will charge the battery. If you power on for a long time, you will continue to charge the battery. This is a non rechargeable battery, which will damage the battery, resulting in failure to work normally if you power on again. Occasionally short power on shows that R1 can be welded, and the battery can be charged occasionally to maintain the power.

### Instructions:

- 1. For the 89C2051 digital clock kit, the control chip adopts AT89C2051, and the nixie tube adopts three two digit red common Yang led nixie tubes with clear display and high brightness. Because it is a scanning display mode, the ABCDEFG pins of each nixie tube adopt bus parallel connection. The display brightness can be changed by changing the resistance value of r4-r10.
- 2. The S1 button is used to calibrate the time. Press and hold for more than 2 seconds to enter the calibration time state and exit. Quick touch is used to adjust the time value.
- 3. A 3V backup battery is added to the circuit. In case of power failure, AT89C2051 uses the backup battery for power supply, and the clock will not stop, but the nixie tube does not display, and the backup battery for incoming calls loses its function. AT89C2051 uses external power supply, and the nixie tube displays normally. So you can add a power switch, turn off the power when you go out, and call again when you come back, and display normally, so as to save electricity TZT.
- 4. Travel time is accurate.

# Schematic diagram:





89.9mm