NEO CIRCUIT

··· Electronic Block Kit ···

14 in 1

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You can easily create electronic circuits!

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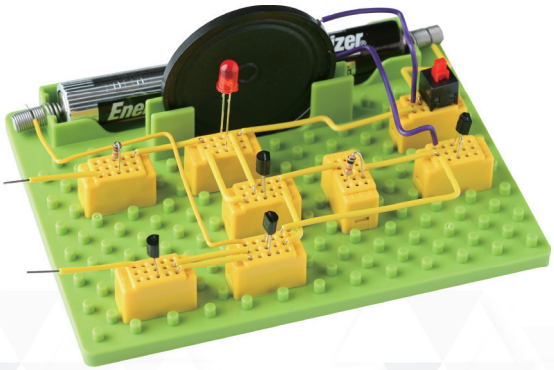
14 in 1



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What is the Neo Circuit

Electronic engineering is leading the technological advancement of computers, semiconductors, wired and wireless communications, home appliances, robotics, etc., and is making the world easier and smarter with home appliances for cellphone, game consoles, and televisions that we use.
Neopia has developed a product that anyone can easily and safely conduct electronic education with a electronic block which has a patent application for the first time in the world.
[Neo Circuit 14 in 1] It is a 'Educational Electronic Experiment Kit' that collects 14 of several previously developed contents and makes you to learn electronics easy and fun way.

First,

It has an excellent learning effect in understanding the configuration of circuits and the principles of electronics.
Neo Circuit can be configured the same way of the circuit diagram, and it is most suitable for electronic education because you can easy to recognize the created circuit.

Second,

Easy and safe block type to assemble.
It is easy for beginners to learn because it works by plugging the part into the block without using soldering or other tools.

Third,

Easily transformed the wrong part of the electronic circuit, and can be used repeatedly.
It is easy to assemble and review circuits with a real "Pictorial diagram" that marked the numbers of electronic parts and wires together with "Circuit diagram".
It can be modified immediately and also several times with a block method.

Fourth,

The circuit is described by the flow of current.
Since we aimed at "Easy Electronics", we changed the difficult electronic terms to simple terms. However, in electronic circuits, all phenomena occur simultaneously, so the description of the current flow can be 'circuit description for understanding'.

Fifth,

It configured for students of elementary / secondary school to learn electronics easily and fun.
You can learn from the basics of electronic parts to amplifying circuits and oscillating circuits (circuits that make vibrations of current).

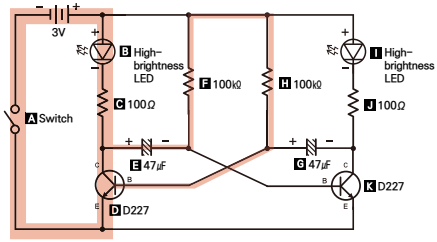
* NEO Circuit : Neo(=new) + Circuit

[Experiment]

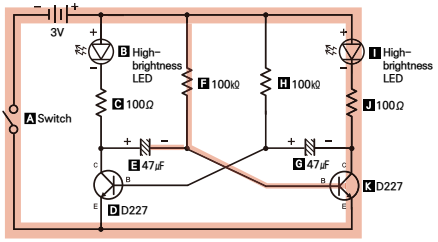
1. Press the switch (part **A**) to turn on the power.
2. Try to extract the capacitor (part **E** & part **G**) and change it to a capacitor with a 3.3μF capacity.
3. Try to extract the capacitor (part **E** & part **G**) and change it to a capacitor with a 220μF capacity.

[Understanding of the circuit]

This is a circuit in which the LED blinks alternately due to the charging and discharging of the capacitor and the switching operation of the transistor.
LED, transistors and capacitor are arranged in two groups (part **B** **D** **G** & part **I** **K** **E**) on the left and right. Assuming that the left LED (part **B**)is turned on first, While the left capacitor (part **E**) is charging, because there is no current flowing to the base of the right transistor (part **K**) and the transistor is not operating (switching), so the right LED (part **I**) does not turn on.



Current flow chart when the left capacitor is charging



Current flow chart when the left capacitor is discharging

When the left capacitor (part **E**) discharges, the right transistor (part **K**) is switching and the right LED (part **I**) turns on. Repeat this process, alternating left and right groups.
If the capacity of the capacitor (part **E** & part **G**) is changed to 3.3μF, the charging and discharging time is faster because the capacity is decreases, so the blinking speed of the LED is also faster.
If the capacity of the capacitor (part **E** & part **G**) is changed to 220μF, the charging and discharging time is slower because the capacity is increases, so the blinking speed of the LED is also slower.