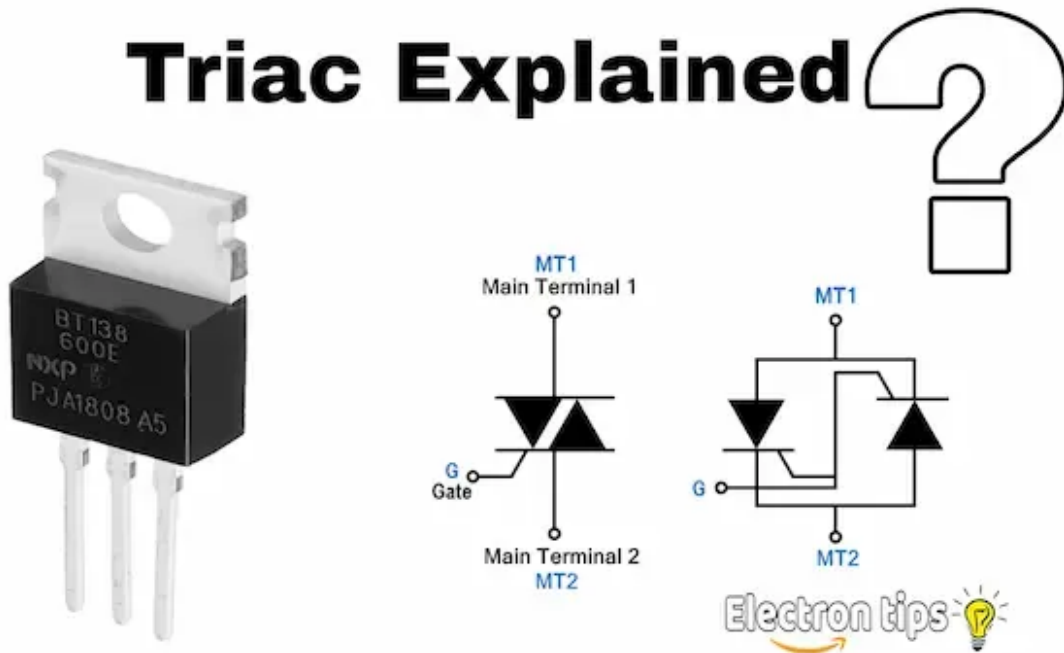


What is a Triac component , symbol, function, structure

مستتر نوب Last update : few days ago 3 Minutes to read

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What is a Triac component

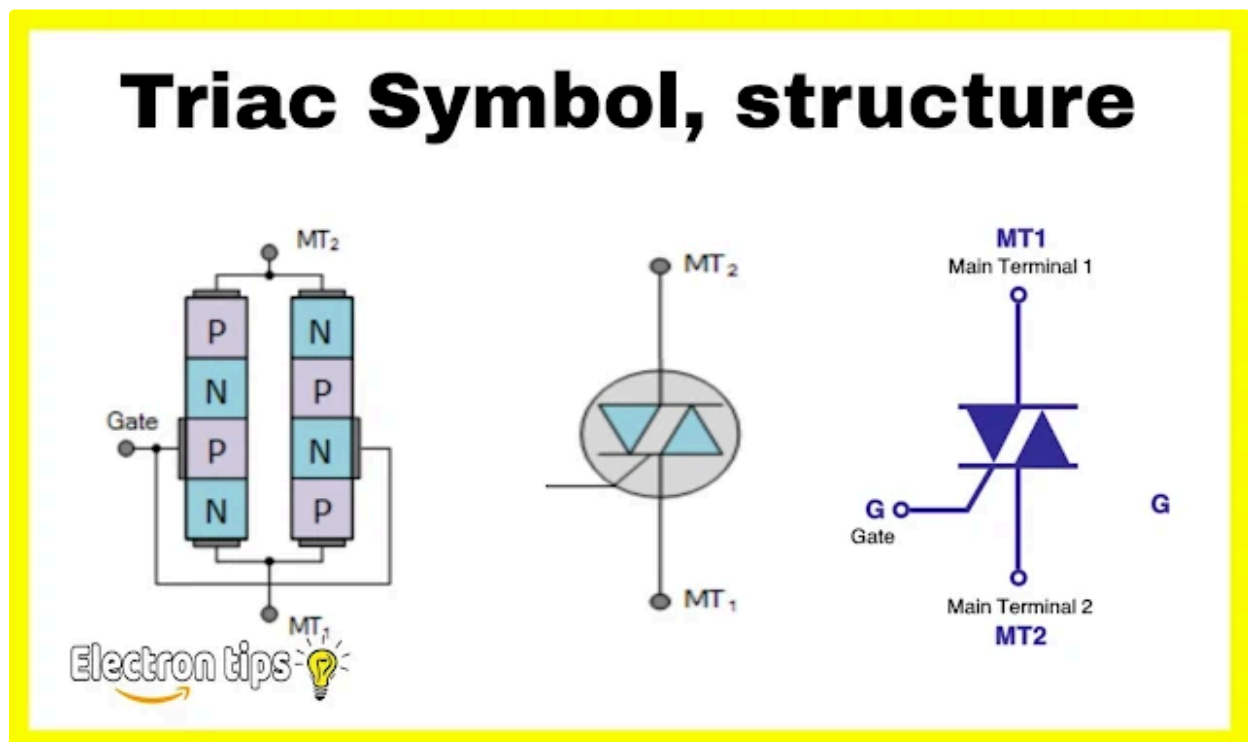
What is a Triac component , symbol, function, structure

Our topic today will be about explaining the most important electronic parts that are used in many projects and electronic control circuits, which is the TRIAC compound, The TRIAC is used to control electrical circuits that rely on alternating electrical current (AC current), and it can be similar to the transistor compound as it also contains three terminals and controls high-voltage electrical currents, Follow the explanation with me to learn about the triac element and how it works in electronic circuits.

Definition of the TRIAC:

The triac is an electrical element from the semiconductor family that works as a highly efficient electronic switch to control electronic circuits that operate with alternating current (AC). It is similar in terms of its working principle to the thyristor compound, except that the triac allows the electric current to pass in both directions, unlike the thyristor, which passes the electric current in one direction. one only .

Triac symbol:



Triac symbol structure

Components and terminals of the triac element

like most electronic elements that are used in electronic control in one way or another, the Triac element has three basic terminals, which are as follows:



Triac terminals

First pin : Gate

Second pin : MT1

Third pin : MT2

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The working principle of triac:

The triac element works in electrical circuits, An electric current or electrical signal, which may be negative or positive, must be introduced into the gate to allow control of the load at both ends MT1 and MT2. This is because the triac component works mainly in alternating electrical current (AC), which changes its value between positive and negative, and it can be said that the triac component is very similar to the transistor element in terms of the working principle, You can refer to a comprehensive topic about the transistor component from here.

How to test triac component :

To check the triac component we will use a multimeter by setting it to the resistance, If we find that the resistance between MT1 and MT2 is very large during the absence of an electrical signal in the gate, this means that the electrical compound is in good condition and ready for use.

Features of triac component :

One of the most important features of the triac element is that it allows control of electrical circuits that operate at very high electrical voltages. In addition, the triac works in electrical circuits for alternating current, which makes it an indispensable component in electrical devices that depend on alternating electrical current. Its price is very cheap and consumes little electrical energy.

Disadvantages of triac component :

One of the most common problems that you may encounter in using a triac compound is that the value of its operation in the positive pulse is not equal to the value of its operation in the negative pulse. To clarify further, if you operate it with 5 positive volts, you will need 10 volts to restart it with the negative pulse.

This was a comprehensive and explanatory article to explain the triac compound, which is considered the most important element of the electrical system, as well as the principle of its operation in electronic circuits. I hope you have benefited from it. Do not forget to share the topic with your friends for widespread benefit.