G.Arun Prasath(20ECR010),
Department of ECE,
Kongu Engineering College,Perundurai.

IC741 TESTER

ABSTRACT:

The op-amp IC 741 is a DC-coupled, high gain differential amplifier with external negative feedback. IC 741 is characterized by the almost infinite open-loop gain (100,000), almost infinite input impedance (2MΩ), and almost zero output impedance (75Ω). IC 741 is the most popular, cheap, and easy-to-use op-amp. Various type of circuit is designed using Op-amp 741 out of which some are voltage follower, current to voltage converter and vice versa, summing amplifier and so on.

TESTER CIRCUIT WORKING:

The circuit of the operational amplifier 741 tester comprises two diode and very few passive components and a 741 IC to be tested. All the components are connected as shown in the circuit diagram. An LED1 is used to indicate whether an IC is good or fault. Blinking LED1 indicates IC is good.

CIRCUIT DIAGRAM:

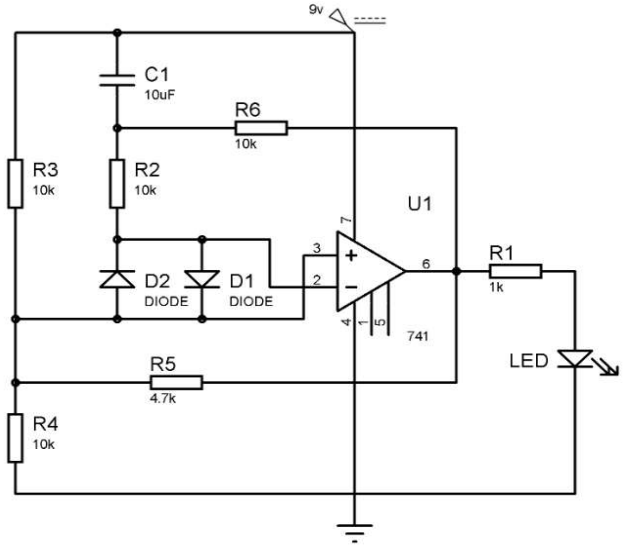
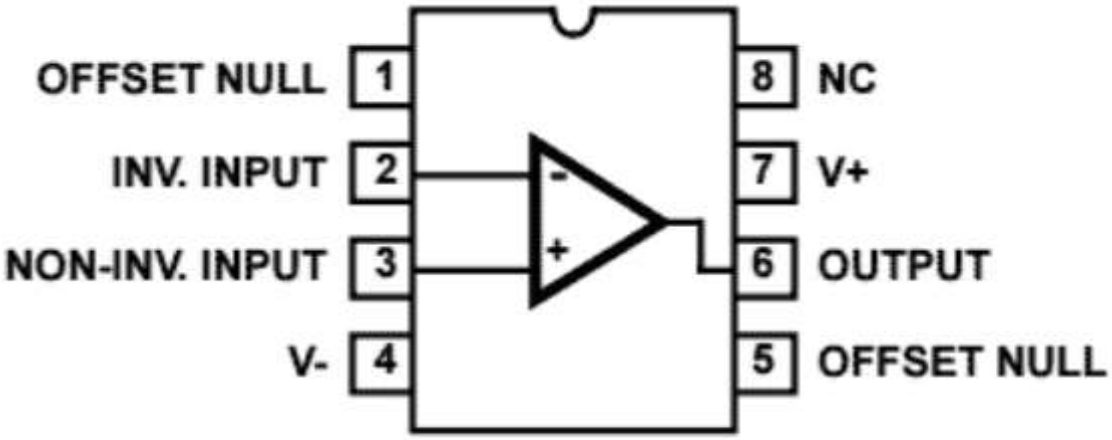


FIG: IC TESTER

PIN CONFIGURATION:



CONCLUSION:

Working of the circuit is simple, basically this circuit generates a Square wave at the output if op-amp is in working condition, resulting a Blinking LED. When we ON the circuit with op-amp is in place, initially voltage at non-inverting input (+) is higher than the voltage at inverting input (-) and output of op-amp LM741 (PIN 6) is High.

So capacitor C1 starts charging through the resistor R6, when C1 charging exceeds the voltage at inverting terminal (PIN 2), then output becomes low. And when the output goes Low, capacitor C1 starts discharging and again voltage at inverting terminal of comparator becomes lower than non-inverting terminal and output goes High. This process repeats continuously and produces Square Wave at the output, which causes LED to Blink.

So if the Op-amp is in working condition, then LED will blink continuously at regular interval and if op-amp is faulty then LED will either stays ON or OFF.