

IC Tester

Abstract:

IC's, the main component of each and every electronic circuit can be used for wide variety of purposes and functions. But sometime due to faulty ICs the circuit doesn't work. Indeed it is lot tedious work to debug the circuit and confirm whether the circuiting is creating problem or the IC itself is dead. So to come up with these sorts of problems IC tester confirm whether the IC under consideration is working properly or not.

Introduction:

Steps to complete the project.

- I did the basic circuit on breadboard and Tried with few basic ICs on it.
- I developed the circuit which can put on PCB and can be used for all the ICs.
- To make the project user friendly, I worked to make the keypad and LCD interface.

Working:

The IC to be tested is inserted in the base. There are two modes in which IC tester can be operated

1. Auto mode
2. Manual mode

1. Auto mode: Under the operation of Auto mode user don't need to use key pad, user just need to insert IC in the IC socket and IC tester automatically detect the IC number by communicated to the MCU which is connected to the external EEPROM which contain all the logic of the ICs then it basically tests the ICs for few sets of input which is given through the MCU available in the EERPOM and corresponding output. The result is again communicated to the first MCU confirming it to be either correct or faulty which is displayed on the LCD. If the IC tested is ok “IC Working” is displayed on the LCD, otherwise “IC Bad” is displayed.

2. Manual mode: Under the operation of manual mode user enters the IC number through keypad which is simultaneously displayed on the LCD. The IC number is communicated to the MCU which basically test the ICs for few sets of input which is given through the MCU and corresponding output. The result is again communicated to the first MCU confirming it to be either correct or faulty which is displayed on the LCD. If the IC tested is ok “IC Working” is displayed on the LCD Otherwise “Bad IC” is displayed.

Future Scope:

The project can be extended as following:

- 1) It Can be extended for more than 28 pin ic's by changing some hardware and some data of that IC
- 2) It Can be extended to analog IC's