Darlington pair Touch sensitive switch

Electronics Devices Lab

MINI Project

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# Darlington Pair Touch Switch

The circuit diagram shows the easy connection. As the name implies, it's the cheapest circuit to build using a touch ignition switch. But here's how it functions: the course discovers the skin collector resistance of the finger and sends a tiny current to the Darlington transistor to switch it on. Darlington Transistor pairs can be made from two individually connected bipolar transistors or a one single device commercially made in a single package with the standard: Base, Emitter and Collector connecting leads and are available in a wide variety of case styles and voltage (and current) ratings in both NPN and PNP versions.

# Working principle

A transistor has 3 pins, one is the collector, one is the base and one is the emitter. The base is like a switch activated by either a negative or positive charge depending on what type of transistor you are using. Once the base is activated, it allows current to flow from the collector to the emitter, amplifying the current. With this concept, since our fingers store charge, we can use that charge to activate our transistor with its collector connected to a power source. Since the emitted charge is still extremely low, we can use this new charge to switch on another transistor with its collector connected to the same power source as previously. The new emitted current is large enough to make a LED glow bright before it returns to the ground.

# Components Required

* BC547 Transistor – 2
* LED -Green-1
* Resistors -2(470 ohm)
* Constant Power source
* Connecting wires
* Bread Board-1

# Circuit Diagram

