ECO-Friendly Air Conditioning Unit

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Abstract:
This unit is a basic utilization of a simple concept call exchange of temperature through Seebeck effect this is the project for providing a better and cheap tool of cooling the best and easy way of cooling is must as summer is to hot and many people didn’t have budget to afford expensive air conditioner. Idea is to change and make the flow of current for P-N junction is a manner that it took some temperature exchange phenomenon at the same time, We use Peltier module which work in the principal of seebeck effect. According to which the travelling of current from one point to another can transfer the temperature from one side to another so small that we have to use 127 coupling at least to get the observable result.

Keywords: Eco-friendly AC, peltier-module, AC-without-compressor.

I. INTRODUCTION
The research is about the cooling achieve without use of compressor and CFC gas as we use in cooling perpus the best part about this research is this is not for a specific group of people this is use is any field and any work, as cooling is nowadays a very necessary this can not only give the efficient cooling but also provide at cheaper price as it work only on the 12volt 6 ampere supply.

II. SEEBECK EFFECT
[1] When we talk about the seebeck effect than this is basically a phenomenon which shows that the temperature difference between to non-similar material (conductor, semiconductor) product the electrical potential between them. And this is a reversible process then we can easily reverse it by applying the electrical current which may transfer the heat from one side to another. As the voltage produce by seebeck effect is very small like few microvolts per kelvin. So we need to connect more device in parallel to each other to make the voltage slightly bigger.

III. OVERALL COMPONENT USED
As per requirement the component listed below with their rating.
- Peltier module (12706) – 12volt 6 ampere
- Heat sink Aluminum (heat side)
- Heat sink cooper (cool side)
- Draft fan (12volt 1 ampere)
- Normal blower fan (12volt 1ampere)
- 12volt 6 ampere transformer
- Diode bridge rectifier
- DC filter

IV. CONSTRUCTION EXPLAIN
At first we just have to make a dc power regulator for which we use transformer as mention and Rectifier Bridge type now we need to filter it out by using DC filter. This supply will provide input of Peltier module. The Peltier start heating and other side start cool down at the same time by seebeck effect we need to provide heat sink both side to capture the temperature and make it out form module so we use aluminum for hotter part and cooper to cooler part. This make the temperature more efficient to transfer now to make the heat out we use blower fan connected by 12 volt 1 ampere suppy this will bring out the all heat produce by module then we also use draft fan for divert air to the cooper sin by which the air get cool and make the surround cooler too. This is a basic operation and working of AC without compressor.

V. CHARACTERISTIC
Figure.1. [2] (Voltage and Current Characteristic)
Voltage is shown in vertical and current in horizontal the characteristic is in a form of ellipse. The characteristic shown is relative relation that when current get applied to module the voltage is consumed.

VI. DIAGRAM
Figure.2. [3](Peltier module Thermal Flow Diagram)
Figure 3. [4] (peltier module as cooler)

VII. REFERENCES SECTION

[1]. Tech Target, search networking https://searchnetworking.techtarget.com/definition/Seebeck-effect


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