ABSTRACT

People needs to keep the condition of the food or drinks in the fresh make refrigerator as one of the household appliances are very popular. Most refrigerators using conventional cooling system that is currently under public discussion. The use of refrigerant can damage the ozone layer.

Final Project aims to create a thermoelectric based cooling system. Advantage of this system is planned up more portable and environmentally friendly. Moreover, the use LM35 temperature sensor, microcontroller ATMega32, and relay as a temperature controlled reefer this is more economical electric power. So expect to compete with conventional cooling system.

Test thermoelectric cooling system work done early current and voltage measurements, the initial temperature of the environment, and the cooling load varies. The results of this study showed that the thermoelectric refrigerator temperature can reach 10^{o}C with power consumption of 90 Watts for 1 hours 40 minute.

Keyword: thermoelectric, LM35, ATMega32, relay.