

ABSTRACT

Nowadays the development of electronic technology is increasingly rapid, especially in the performance of electronic devices. The performance and age of an electronic component also depends on its temperature. One of the solution is to use heat pipe sink components to help release heat from electronic components into the environment.

The objective of this study is to determine the thermal resistance value of the heat pipe sink and analyze the effect of slope on the thermal resistance of the heat pipe sink. To realize the system in finding the thermal resistance value of the heat pipe sink to be more focused. The system design to obtain and determine the effect of the thermal resistance designed and realized consists of tools and materials that can be seen in the design of heat pipe sink test equipment using the sketch up application system which will be designed using a thermoelectric attached to stainless steel which formed into a 4 x 4 cm square with a thickness of 2 mm which is placed on the middle of the upper and lower sides with a thermocouple integrated with the Thermocouple Thermometer, then a heat pipe sink is placed on top of stainless steel.

From the testing of 3 heat pipe sinks, the lowest thermal resistance is obtained when the slope of 180° with the thermal resistance value is $0.00043^{\circ}\text{C} / \text{W}$ which is owned by the sink heat pipe sink 3 and the highest thermal resistance is obtained when the slope of 90° with the thermal resistance value is $0,005^{\circ}\text{C}/\text{W}$ is owned by the heat pipe sink 1 contained in the attachment data.

This is caused by the working fluid, the wall structure in the pipe, pipe material, shape, heat pipe length, rotation speed, evaporator and condenser temperature difference, thermal resistance, output power.

Keyword : heat pipe sink, slope, thermal resistance

