Optimum Design of Heat Sink for Natural Convection

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ABSTRACT

Heat sinks are widely used in various industrial applications such as electronic, power electronic, telecommunication, and automotive components respectively by dissipating heat to the surrounding medium. In this paper we have designed 30 Watts heat sink, natural convection to maintain the Junction temperature of 65 °C and temperature difference between the fin surface and the surrounding is 20°C. Space available for heat sink position is 210 * 150 * 30 mm. The rectangular heat sink was designed, but considering space available is as constriction, we have optimized the vertical length of heat sink by making rectangular fin to curved profile. Experimental examination is made to find the amount of the heat dissipated through the heat sink to the ambient temperature in comparison with natural convection process.