ABSTRACT

The inductor component has a function that can mcnyimpan energy on the magnetic field inflicted from Kong electric. Some inductors are formed only in the form of coil wire only, but there is also an inductor formed by wrapping the wire in solid materials. The solid material is called the core of the conductor (core Ferrite). The liquid core of Ferrite parts is vital in determining inductance value. The material used on the ferrite core is ceramic. Ceramic is very susceptible to drastic temperature changes. On the other hand, Ferrite Core is a mandatory inductor electronic component to be able to function equally well when through several tests of Lemhanas include Thermal Cycle Test at a temperature of -55 °c and 125 °c as much as 10 times. The part that is directly affected by the highest Stress results is in the Neck, Magnetic Windows, and Flange so that the part is a design factor in this study. Methods of the liquid Taguchi method are used to improve the quality of a product, so that the study uses the Taguchi method. Using a factor of 3 and as many as 5 levels, this experiment was done 25 times. In calculating the S/N ratio the quality characteristics used are smaller is better, because in this study look for the smallest Stress value that indicates that the product is getting better. From the processing of the obtained data, known optimum point for the setting of the design parameters in terms of stress is the width of the neck 2, 2 mm; Magnetic window width 1, 4 mm; and thick Flange of 1, 9 mm.

Keywords: Taguchi Method, Orthogonal Array, S/N Ratio, Thermal Cycle Test, Stress