EFFECT OF SINTERING TEMPERATURE ON STRUCTURAL AND ELECTRICAL PROPERTIES OF SILICA DOPED ZINC OXIDE BASED VARISTOR

NUR FARHAIM BINTI ABDUL RASUL

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Universiti Teknologi Mara

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ABSTRACT

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The effect of sintering temperature on the structural and electrical properties of silica doped zinc oxide, Si-doped ZnO based varistor have been investigated. The Si-doped ZnO with composition x [SLS] 100-x [ZnO], x= 3 wt. % have been prepared using solid state method. Five different sintering temperatures have been applied to the samples. The increasing of sintering temperature has led to an increase in the density and average grain size of the varistor. The Si-doped ZnO based varistor that have been sintered at highest sintering temperature, 1150 °C has obtained highest nonlinear coefficient which is 3.87. The nonlinear coefficient also has been increased with increasing of sintering temperature.

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