

Electrical Characterization of Al/diazo compound containing polyoxy chain/p-Si Device

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Abstract:

Diazo-compounds have a very important class of chemical compounds in a variety of industries and research laboratories. Their optical and electronic properties with good chemical stability and solution processability make them interesting for photovoltaic applications. Synthesized diazo-compound (AZOTEG) was dissolved in chloroform solvent. Al/diazo compound containing polyoxy chain/p-Si device formed by coating of an organic film on p-Si. Prepared film was waited at room temperature to evaporate the chloroform. Al is used as a rectifying contact. The current-voltage and capacitance-voltage characteristics of Al/diazo compound containing polyoxy chain/p-Si device were measured at room temperature. Typical rectifying behaviour is observed. Diode factor, reverse saturation current and barrier height values are calculated by using current-voltage data. Modification of the interfacial barrier of Al/p-Si device was achieved by using interlayer of diazo compound containing polyoxy chain organic material. Interface states lead to frequency dispersion of the capacitance-voltage characteristic of the device. The behaviour of the interface states with frequency is analysed by Hill-Coleman method.