

The effect of end capped crosslinking on polyimide for low thermal expansion(CTE)

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Polyimide is an outstanding aromatic polymer for aerospace and microelectronic devices. In this study, a crosslinking agent was introduced to synthesize the polyimide film. The crosslinking agent was used to improve the thermal property of the polymer. A series of polyimide thin film had been prepared from polyamic acid with 4,4'-Diaminodiphenylether(ODA), 3,3',4,4'-Benzophenonetetracarboxylic Dianhydride (BTDA) and a crosslinking agent. The end capped crosslinked polyimide was characterized by confirming the synthesis with the FT-IR. The DSC, TMA, DMA was used to analyze the thermal property of the crosslinked polyimide.

Through this study we were able to confirm the effect of crosslinking agents on CTE (Coefficient of Thermal Expansion) and the modulus of the polyimide.