ABSTRACT

METHOD OF CURING THERMOPLASTICS WITH MICROWAVE ENERGY

A method for densifying thermoplastics, particularly polyimides, for use in conjunction with electronic circuits while producing improved physical properties and a high degree of crystallinity, involves variable frequency microwave (VFM) processing at temperatures typically 100°C below the glass transition temperature or lower, for times of about 50 to 100 minutes. It is particularly applicable to polymers based on BPDA-PPD, but may also be generally applied to other intentionally designed polyimide structures with the same features. The invention enables the creation of layered structures involving integrated circuits with small feature sizes and overcoatings of polymers with high T_g and other desirable properties.

[Figure 1]