

ABSTRACT

COMPOSITE OVERMOLDED SUBSTRATE CARRIER

A wafer carrier is formed from at least two different melt processable plastic materials in which the two plastic materials are strategically positioned for optimal performance and have a thermophysical bond created during an overmolding process. The invention includes carriers made of such different melt processable plastic materials and includes the process for manufacturing such carriers. In a preferred embodiment a H-bar wafer carrier will have a first structural portion molded of polycarbonate in a first mold cavity and will then have the polycarbonate molded portion placed in a second mold cavity and polyetheretherketone will be injection molded to form wafer contact portions on the H-bar carrier. Process temperatures and mold temperatures are controlled to provide optimal bonding between the dissimilar materials. Thus, an integral wafer carrier of composite materials is formed. An additional embodiment utilizes components such as shelves or sidewall inserts for holding wafers molded of two dissimilar plastics and said components are assembled within a disk enclosure such as a transport module.

(Figure 1)

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