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SEMICONDUCTOR DIE PACKAGES WITH RECESSED INTERCONNECTING STRUCTURES AND METHODS FOR ASSEMBLING THE SAME

ABSTRACT

Apparatus and methods relating to semiconductor assemblies. A semiconductor assembly includes an interposer which may be constructed from a flexible material, such as a polyimide tape. A pattern of conductive traces disposed on a first surface of the interposer is in electrical communication with a semiconductor die attached to the first surface. Interconnect recesses accessible on the opposite second surface expose one or more conductive traces. A conductive element, such as a solder ball, disposed substantially within the interconnect recess allows the assembly to be mounted on a substrate or a similar assembly. By substantially containing the conductive element within the interconnect recess, the height of the completed assembly is reduced. Assemblies may be stacked to form multi-die assemblies. Interconnect structures, such as connection pads, or enlarged traces upon the first surface and employed to connect stacked assemblies.

[Figure 5]