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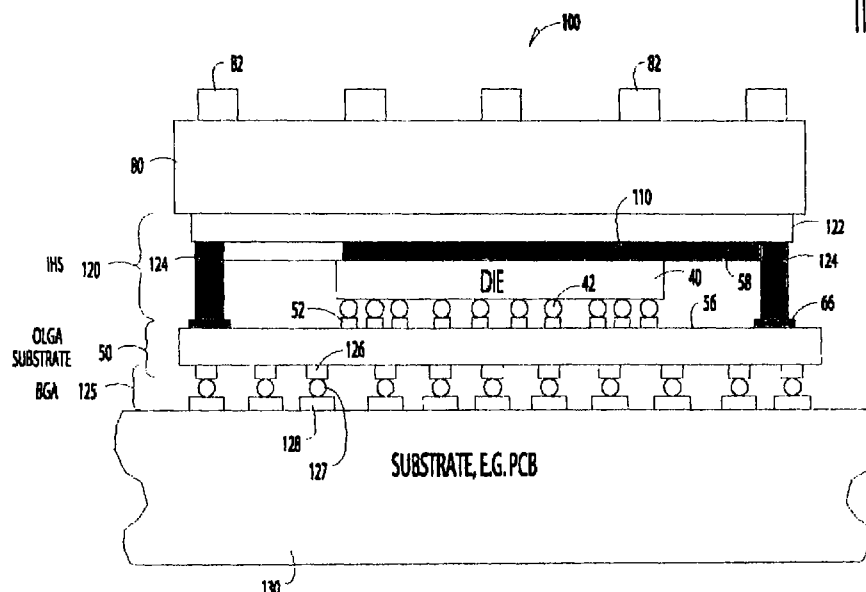
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(57) Abstract: To accommodate high power densities associated with high performance integrated circuits, an integrated circuit package includes a heat-dissipating structure in which heat is dissipated from a surface of one or more dice (40) to an integrated heat spreader (IHS) through a high capacity thermal interface (110) formed of diamond, a diamond composite, or graphite. In one embodiment, a diamond layer is grown on the IHS lid (122). In another embodiment, a diamond layer is separately formed and affixed to the IHS. Methods of fabrication, as well as application of the package to an electronic assembly and to an electronic system, are also described.

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