ABSTRACT

SOLDER MASKS FOR USE ON CARRIER SUBSTRATES, CARRIER SUBSTRATES AND SEMICONDUCTOR DEVICE ASSEMBLIES INCLUDING SUCH SOLDER MASKS, AND METHODS

A carrier substrate includes at least one die-attach location and one or more terminals that protrude from a surface of the carrier substrate so as to prevent adhesive material from contaminating connection surfaces thereof. A solder mask for use on a carrier substrate includes a device-securing region positionable over at least a portion of a die-support location of the carrier substrate. Dams of the solder mask are positionable laterally adjacent to at least portions of the peripheries of corresponding terminals of the carrier substrate. The carrier substrate and solder mask may each include one or more recessed areas that laterally surround at least portions of their die-attach location and device-securing region, respectively, to receive some of the excess adhesive. Assemblies and packages including one or both of the carrier substrate and solder mask are also disclosed, as are assembly methods and methods for designing the carrier substrate and solder mask.

[Figure 1]



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