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(54) Title: PRE-ATTACHED ENGINEERED SOLDERS FOR ULTRA-LOW RESIDUE SOLDERING

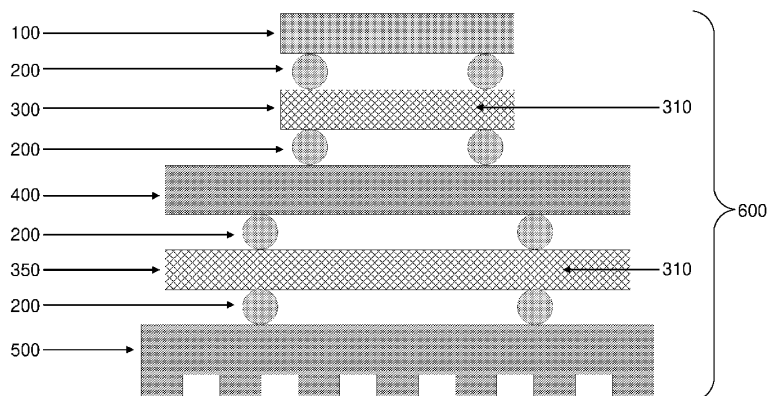


FIG. 1

(57) Abstract: Some implementations of the disclosure are directed to a method including: placing a first solder preform and a first tacky material between a first device and a second device to form a semiconductor assembly, the first tacky material configured to cause a surface of the first device to adhere to a first surface of the first solder preform, and a first surface of the second device to adhere to a second surface of the first solder preform opposite the first surface; and reflowing the semiconductor assembly at a temperature above a solidus temperature of the first solder preform to bond, via at least the first solder preform, the first device to the second device. The first tacky material has a reflow residual weight of less than 1% of the weight of the first tacky material before reflowing the semiconductor assembly.

[Continued on next page]

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