

(12) **United States Patent**
Patel et al.

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(54) **DUAL-SOCKET INTERPOSER AND METHOD OF FABRICATION THEREFOR**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(65) **Prior Publication Data**

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Related U.S. Application Data

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(51) **Int. Cl.⁷** **H05K 7/10**

(52) **U.S. Cl.** **361/760; 361/803; 361/718; 361/748; 257/691; 257/718**

(58) **Field of Search** 361/760, 736, 361/794, 803, 728, 718, 748, 792, 799; 257/691, 728; 363/35, 59, 64

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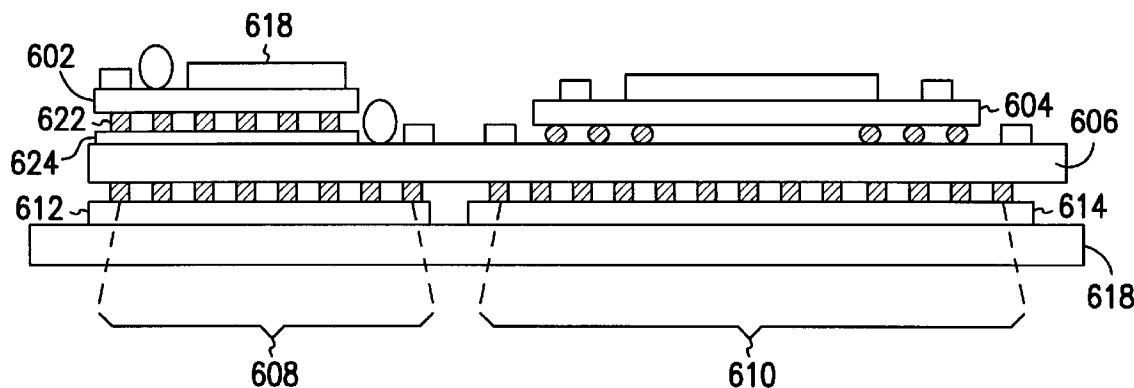
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(57) **ABSTRACT**

An interposer includes two separate sets of pins, and inserts into two sockets on a printed circuit board. One set of pins supplies power to a step down converter (SDC) mounted on the interposer. The second set of pins provide inputs and outputs to an integrated circuit mounted on the interposer. One or more conductive traces in or on the interposer electrically connect an output of the SDC to an input of the integrated circuit, thus supplying regulated power to the integrated circuit through the interposer. The SDC and integrated circuit can be directly mounted on the interposer, or either or both can be mounted on packages that connect to the interposer. The SDC and integrated circuit can be flip chips or can be connected to the interposer or package using wirebonds. The packages can be pinned or connectable by solder bumps.

7 Claims, 7 Drawing Sheets



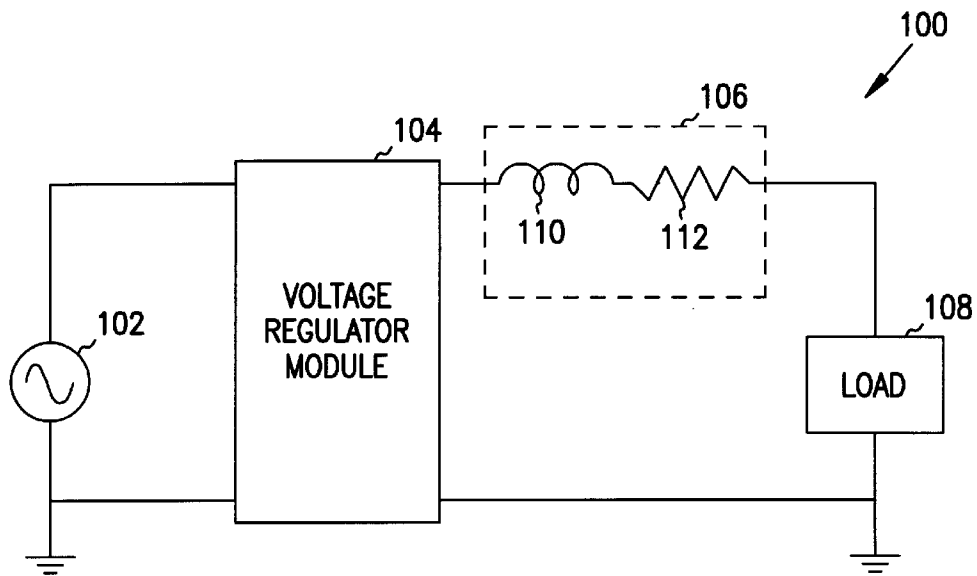


FIG. 1

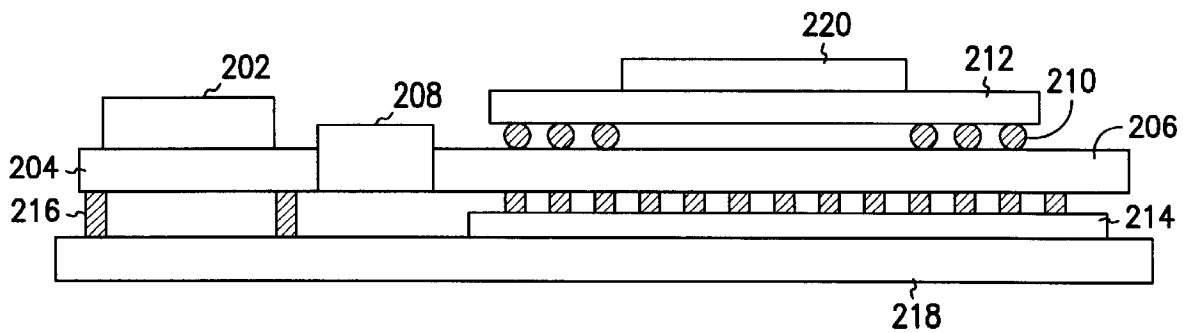


FIG. 2

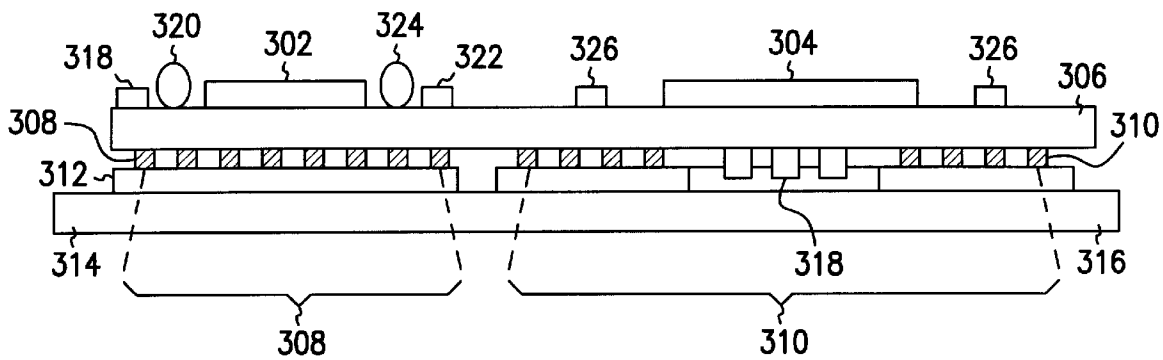


FIG. 3

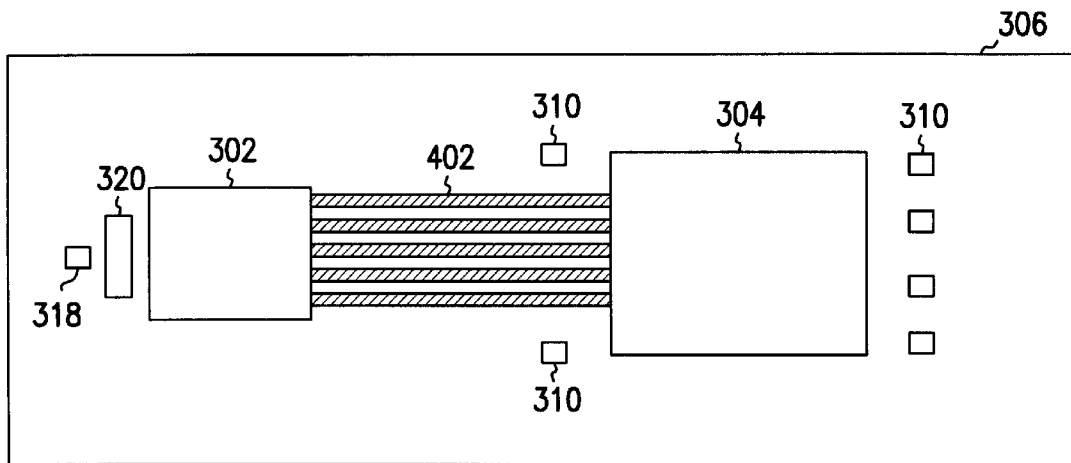


FIG. 4

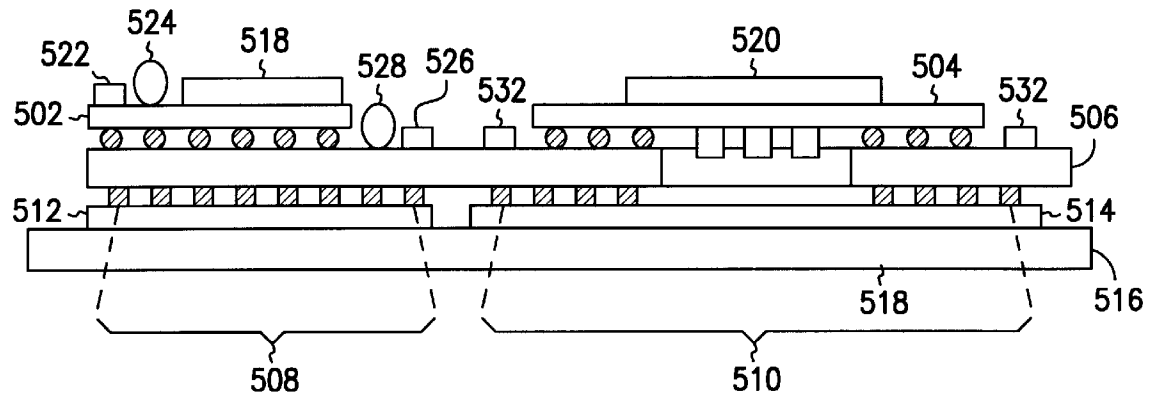


FIG. 5

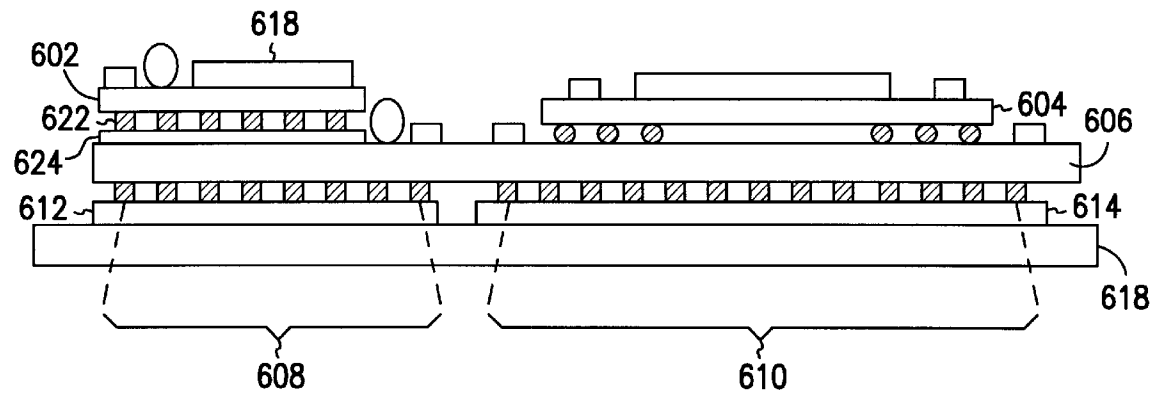


FIG. 6

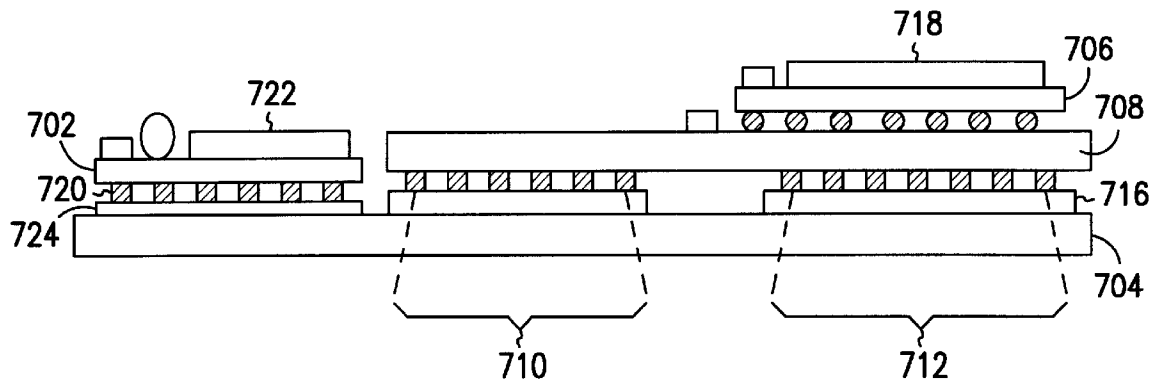


FIG. 7

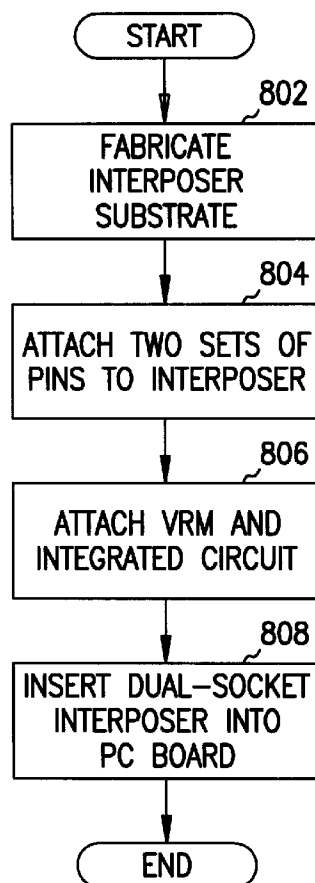


FIG. 8

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