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(54) Title: LOWER PROFILE PACKAGE WITH POWER SUPPLY IN PACKAGE

(57) Abstract: A package (10) with a Power Supply In Package (PSIP) feature may include a charge pump (16) external to the die (14) in order to take advantage of a smaller die size. The die (14) may be mounted on a substrate with an array of solder balls (34) of a Ball Grid Array. The package (40) may have substantially the same size as a package without PSIP capability. In one embodiment, the passive components (16) may be mounted on the die (14) using epoxy (18). In another embodiment, the reduced-size passive components (32) may be mounted on the substrate (26) of the ball grid array (34) in a region (33) free of solder balls.



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