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(54) **SAFETY AND EMC COMPLIANT INTERNAL
POWER PLANE HEAT SINK CAPACITOR**

(52) **U.S. Cl.**

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ABSTRACT

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An apparatus for providing a safety and EMC compliant heat sink. The apparatus includes a heat sink configured to be attached to an internal power plane of a printed circuit board (PCB). The heat sink includes a plurality of fins extending outward from the heat sink. The apparatus further includes a compliance cage configured to be connected to a ground portion of the PCB, the compliance cage surrounding at least a portion of the heat sink. At least one capacitor plate contacting at least a portion of the compliance cage and extending inwards towards the heat sink and interleaving with the plurality of fins is present. Dielectric spacers are provided to fill a portion of the space between the capacitor plates and the heat sink fins.

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