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(54) **CURRENT SENSOR FOR A PRINTED CIRCUIT BOARD**

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(57) **ABSTRACT**

A current sensor (**100**) integrated into a printed circuit board (PCB) (**102**) for sensing a current flow (**104**) through a first conductive path (**106**). The current sensor (**100**) comprises a first conductive winding (**110**) forming an open shape (**112**) in a plane of the PCB (**102**), wherein the open shape (**112**) has a first end (**114***a*) and a second end (**114***b*) and delimits a sensitive region (**116**) in a plane of the PCB (**102**) for sensing the current flow (**104**) through the first conductive path (**106**) arranged within the sensitive region (**116**). The first conductive winding (**110**) is formed of a conductor having a plurality of turns extending across a thickness (d) of the PCB (**102**) and the first conductive winding (**110**) is spaced from an obstacle (**108**) in the PCB (**102**) by at least an insulation distance (**118**) from the first end (**114***a*) to the obstacle (**108**).