

Title (en)

MICROWAVE ANTENNA FOR FLIP-CHIP SEMICONDUCTOR MODULES

Title (de)

MIKROWELLENANTENNE FÜR IN FLIP-CHIP-TECHNOLOGIE HERGESTELLTE HALBLEITERBAUGRUPPEN

Title (fr)

ANTENNE A MICRO-ONDES DESTINEE A DES MODULES A SEMICONDUCTEURS A PUCES RETOURNEES

Publication

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Application

**EP 05728358 A 20050316**

Priority

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Abstract (en)

[origin: US2008238792A1] The invention relates to a microwave antenna for flip-chip semiconductor modules, comprising two semiconductor substrates which are metallized on the surface thereof. Patch antennas, i.e. metallized flat areas which are insulated from the rest of the circuit on an outer surface of a module with a supply line to the circuit, are already known per se. They result in vertical radiation at a relatively large angle. According to the invention, a closed group of bumps are arranged in such a way that the distance of the bumps ( 2 ) to each other is less than the half wavelength ( $\lambda/2$ ) of the microsignal which is to be radiated or received and an open radiation slot arises in at least one pair of side walls ( 3,4 ) of the semiconductor substrates (a,b) and a bump, which is connected to the circuit of the semiconductor module, is arranged between the bumps ( 2 ) and the radiation slot, enabling the microwave antenna to be excited.

IPC 8 full level

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