METHOD OF MANUFACTURING A SEMICONDUCTOR ~~SYSTEM~~ PACKAGE WITH FINE PITCH LEAD FINGERS ~~AND METHOD OF MANUFACTURE THEREOF~~

TECHNICAL FIELD

The present invention relates generally to semiconductor packages, and more particularly to a system for wire bonding die in a semiconductor package.

BACKGROUND ART

Integrated circuit dies conventionally are enclosed in semiconductor packages that provide protection from hostile environments and enable electrical interconnection between the integrated circuit die and an underlying substrate, such as a leadframe or printed circuit board (PCB). In semiconductor packages using a leadframe, the leadframe is the central supporting structure of the semiconductor package. A portion of the leadframe is internal to the package, i.e., completely surrounded by an encapsulant.

For purposes of high-volume, low-cost production of semiconductor packages, a current industry practice is to etch or stamp a thin sheet of metal material to form a panel or strip that defines multiple leadframes. A single strip may be formed to include multiple arrays, with each such array including a multiplicity of leadframes in a particular pattern. In a typical semiconductor package manufacturing process, the integrated circuit dies are mounted and wire bonded to respective ones of the leadframes, with the encapsulant material then being applied to the strips to encapsulate the integrated circuit dies, bond wires, and portions of each of the leadframes.

Varieties of techniques are known for interconnecting an integrated circuit die to a substrate. These techniques include wire bonding, tape automated bonding (TAB), and flip