ABSTRACT OF THE DISCLOSURE

LEADLESS PACKAGING FOR IMAGE SENSOR DEVICES AND METHODS OF ASSEMBLY

The present invention defines a leadless image sensor package and methods for its assembly. In a first embodiment, an image sensor chip is mounted within a bottom-side cavity of a package shell in a flip-chip manner such that sensing circuitry on the image sensor chip is exposed through an aperture in the top side of the package shell. A transparent encapsulant material is deposited within the aperture to encase interconnect bonds between the package shell and the image sensor chip. A transparent lid is held in place over the aperture by the encapsulant material. The back surface of the image sensor chip is left exposed. In a second embodiment particularly suitable for high-end image sensors, an encapsulant material is not required. Instead, a backing cap is hermetically sealed to a ledge surface in the package shell to cover the bottom-side cavity. A compression member formed on the backing cap contacts the image sensor chip and maintains interconnect bond integrity.

FIG. 1