LEADFRAME AND SEMICONDUCTOR PACKAGE MADE USING THE LEADFRAME

ABSTRACT

Metal leadframes, semiconductor packages made using the leadframes, and methods of making the leadframes and packages are disclosed. In one embodiment, the leadframe includes a rectangular frame. A chip pad and a plurality of leads are within the frame. The lower side of the chip pad and the leads includes one or more vertically recessed horizontal surfaces. The upper side of the chip pad may include a groove around a chip mounting region. In a package, the chip pad supports a semiconductor chip electrically connected to the leads. The lower side of the chip pad and leads are exposed at an exterior surface of the package body. Encapsulant material underfills the recessed lower surfaces of the chip pad and leads, thereby locking them to the encapsulant material. A wire may be reliably bonded to the chip pad within the groove formed in the upper side thereof.

FIG.1b

