IMPROVED SURFACE-MOUNT HIGH POWER SEMICONDUCTOR PACKAGE AND METHOD OF MANUFACTURE

ABSTRACT OF THE DISCLOSURE

A surface mount semiconductor package includes washing grooves disposed on a bottom surface of a plastic housing. The package also employs locking elements for locking the plastic housing to a metal pad on which a semiconductor device is mounted, where the locking elements include a cross bar between terminals, slots disposed on the metal pad which include barbs and dove-tail grooves disposed on the metal pad. The metal pad includes a waffled surface for improved coupling to a substrate. The package includes terminals having offset portions for providing spaces for the plastic housing material to fill for improved encapsulation of the terminals. The metal pad extends beyond the lateral edges of the plastic housing for improved heat dissipation and for providing a surface to couple to a heatsink.

Fig. 1