ABSTRACT

PACKAGE FOR INTEGRATED CIRCUIT DIE

A circuit package for housing semiconductor or other integrated circuit devices (110) includes a high-copper flange (102), one or more high-copper leads (106) and a liquid crystal polymer frame (104) molded to the flange and the leads. The flange includes a dovetail-shaped groove or other frame retention feature (500) that mechanically interlocks with the molded frame. During molding, a portion of the frame forms a key (502) that freezes in or around the frame retention feature. The leads include one or more lead retention features (310) to mechanically interlock with the frame. During molding, a portion of the frame freezes in or adjacent these lead retention features. The frame includes compounds to prevent moisture infiltration and match its coefficient of thermal expansion (CTE) to the CTE of the leads and flange. The frame is formulated to withstand die-attach temperatures. A lid (200) is ultrasonically welded to the frame after a die is attached to the flange.

FIG. 5A



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