



**HIGH DENSITY AND HIGH CURRENT CAPACITY PAD-TO-PAD CONNECTOR
COMPRISING OF SPRING CONNECTOR ELEMENTS (SCE)**

ABSTRACT

A new approach is disclosed which provides thousands of contacts between electronic packages (101) and their next package level by use of small formed spring contact elements (SCE 104) retained within a interposer structure or soldered directly into a printed circuit board (109) or onto the module (410). Each contact element (104) can be either a signal or power line and, preferably alternate both horizontally and vertically in an orthogonal grid such that no signalling is adjacent to another signal. The spring contact elements (SCE 104) have multiple cross-sectional shapes and are pre-formed for improved mechanical performance. A retainer (301, 302) contains the multiplicity of SCE's (104) while providing a air plenum (403) for improved thermal performance.

Fig. 1B