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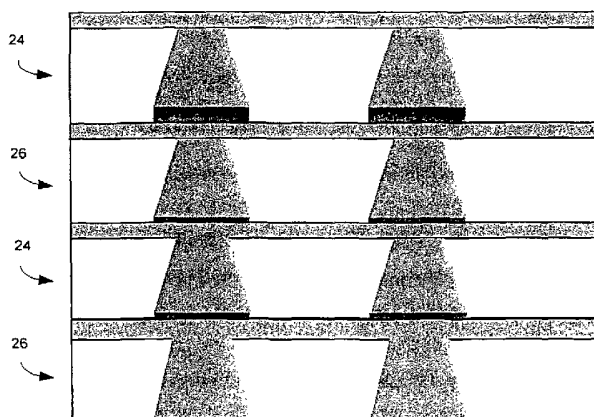
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(54) Title: METHODS FOR FABRICATING THREE-DIMENSIONAL ALL ORGANIC INTERCONNECT STRUCTURES



(57) Abstract: The present invention comprises methods for making three-dimensional (3-D) liquid crystalline polymer (LCP) interconnect structures using a high temperature single sided liquid crystalline polymer, and low temperature single sided liquid crystalline polymer, whereas both the high temperature LCP and the low temperature LCP are drilled using a laser or mechanical drill or mechanically punch to form a z-axis connection. The single sided Conductive layer is used as a bus layer to form z axis conductive stud within the high temperature and low temperature LCP, followed by deposition of a metallic capping layer of the stud that serves as the bonding metal between the conductive interconnects to form the z-axis electrical connection. High temperature and low temperature LCP circuit layers are etched or built up to form circuit patterns and subsequently bonded together to form final 3-D multilayer circuit pattern whereas the low temperature LCP melts to form both dielectric to dielectric bond to high temperature LCP circuit layer, and dielectric to conductive bond, whereas, metal to metal bonding occurs with high temperature metal capping layer bonding to conductive metal layer. The resultant structure is then packaged using two metallized organic cores that are laminated onto either side of the device using a low temperature adhesive with similar electrical properties and subsequently metallized to form the input output terminals and EM shielding.



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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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Y	EP 1 235 235 A (TDK CORP) 28 August 2002 (2002-08-28) paragraph '0036!; claims 1,4 ---	13,14
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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