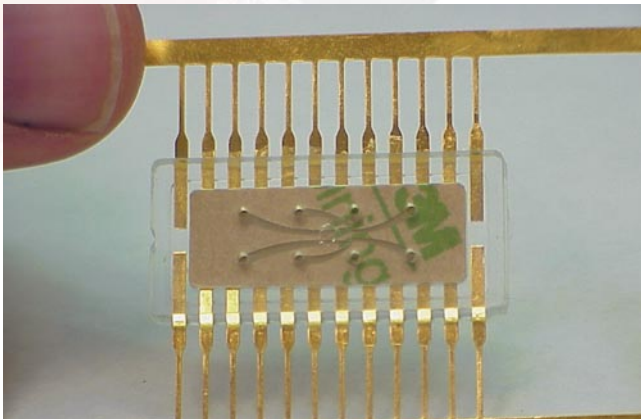




PACKAGING



Electro Microfluidic Dual In-Line Package, bottom view.

Electro Microfluidic Packaging

Microfluidics is experiencing explosive growth in new product developments. Already there are many commercial applications for electro-microfluidic devices such as chemical sensors, biological sensors, and drop ejectors for both printing and chemical analysis. As the number of surface micromachined microfluidic devices increases, manufacturing efficiency and integration of microfluidics with electronics will become important. In order to realize applications for these devices, an efficient method for packaging microfluidic devices is needed. Sandia developed the Electro Microfluidic Dual In-Line Package (EMDIP) in response to this need. EMDIP is an inexpensive packaging method for silicon based electro-microfluidic devices. This package is durable, modular, easy to handle, and easy to install. In addition, this patent-pending technology allows for electrical connections on

the top side of the silicon devices and fluidic connections on the bottom side as part of the assembly process.

EMDIP has many other beneficial features:

- It is inexpensive and can be manufactured through an automated process.
- It can be adopted as a standard.
- It includes a great selection of package materials for better fluid compatibility. This technology has been built and tested. Currently, there is no standardized package for silicon based electro-microfluidic devices available in the marketplace.

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