

Low cost diffuser based micropump using pinch actuation

Abstract

Planar pinch micropump with the integration of two diffuser valve elements has been reported. The fabrication of the micropump is carried out by utilizing simple hot embossing technique for microdiffuser imprinting and spin coating for membrane construction. Parameter of diffuser design is optimized via finite element analysis (FEA). The experiment result shows that the pump works well at low frequency of 29 Hz.