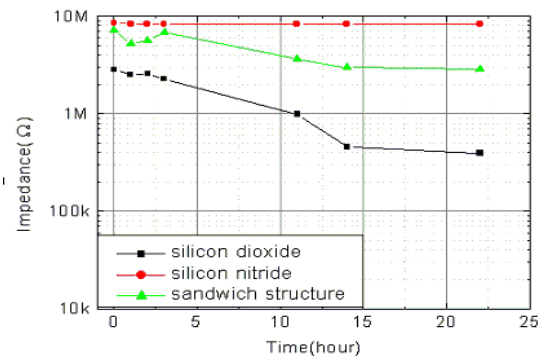
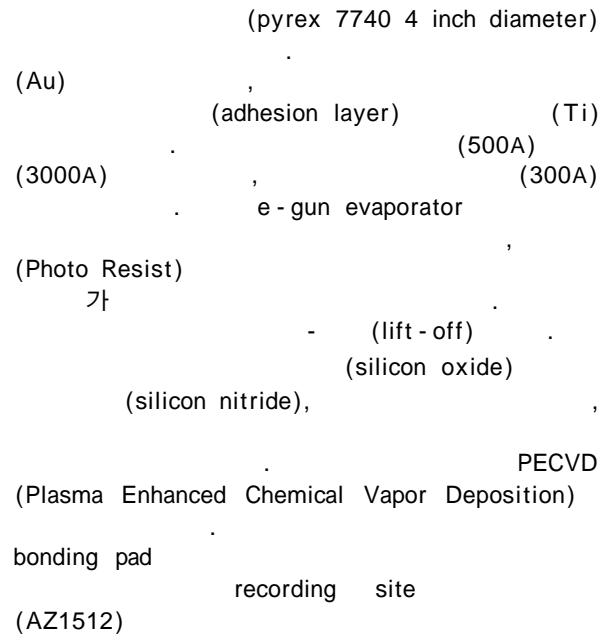


# The study of planar - type multichannel microelectrode for recording neural signal

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## ABSTRACT

Planar - type multichannel microelectrode is developed for culturing neurons and recording action potentials of them. When recording the action potentials, the characteristics of passivation layer are very important because the electrode is surrounded with solution that has various ions. As a result of experiments, the impedance of dielectrics changed as time passed. The impedance of silicon dioxide layer was greatly decreased. And the impedance was almost same in case of the sandwich-structured layer. But the impedance of the silicon nitride layer decreased little. Beside the impedance of the passivation layer has increases by increasing the depth of the nitride layer. To decrease the impedance of electrode, platinum black was electroplated on gold electrode site. For many reduction potential the electroplatings are performed. and the optimum condition was found according to viewing the SEM(Scanning Electron Microscopy) of the plated sites and measuring the impedance of the electrode before and after plating.



1. (at 1kHz)

