ABSTRACT OF THE DISCLOSURE

METHOD AND APPARATUS FOR DETERMINATION OF THE END POINT IN CHEMICAL MECHANICAL POLISHING

An apparatus and method for determination of the endpoint for chemical mechanical polishing of a layer of dielectric material formed on an integrated circuit wafer. A first voltage is generated which is proportional to the current supplying electrical power to the electric motor driving the polishing mechanism. The current is proportional to the rate of removal of dielectric material by the polishing process. The integral over time of the first voltage, which is proportional to the amount of dielectric material removed, is generated by an integrator circuit. A comparator circuit compares the integral over time of the first voltage to a reference voltage. The reference voltage is proportional to the initial thickness of the dielectric material and is a function of age of the age of the polishing pad. When the integral over time of the first voltage is less than the reference voltage the polishing continues. When the integral over time of the first voltage is equal to the reference voltage or becomes larger than the reference voltage the polishing is stopped.

(FIGURE 1 IS SUGGESTED FOR PUBLICATION)