ABSTRACT

A METHOD OF FABRICATING AN ANTIFUSE ELEMENT

A process for forming an amorphous silicon, antifuse element, on an underlying, raised tungsten plug structure, has been developed. The process features the recessing of the insulator layer, in which the tungsten plug structure resides, resulting in a raised portion of a tungsten plug structure. Conductive spacers are then formed on the exposed sides of the raised portion of the tungsten plug structure, resulting in smooth edges, at the perophery of the raised tungsten plug structure. An amorphous silicon layer is then deposited and defined to create the amorphous silicon, antifuse element, on the underlying raised tungsten plug structure, smoothed via the addition of the conductive, sidewall spacers. The use of the underlying, smooth, raised tungsten plug structure, alleviates excessive current crowding, presnet at the edges of the raised tungsten plug structure, during a high voltage pulsing procedure, performed to the overlying antifuse element.

FIGURE 1 IS SUGGESTED FOR PUBLICATION