



# New low voltage varistor based on SnO<sub>2</sub>



> **Description** This invention consists of a new low voltage varistor system based on tin dioxide (SnO<sub>2</sub>) with potential use in low and medium voltage electrical and electronic applications, such as residential input circuits, telephones, televisions and electronic products in general.

> **Problem** All electric power supply networks (commercial and residential) are subject to voltage surges that can cause burnout. Therefore, varistor systems that can be inserted into these networks offer a solution to protect industrial and domestic electrical appliances.

> **Benefits** The proposed invention consists of a low voltage varistor composed of SnO<sub>2</sub> nanoribbons. This new varistor composition has a coefficient of nonlinearity ( ) of approximately 16, which maintains competitive values of other electronic properties, and the amount of leakage current remains small, which gives this material interesting characteristics for use in electric power distribution systems.