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(11) **Simonet et al.**(54) **UNIDIRECTIONAL TRANSIENT VOLTAGE  
SUPPRESSION DEVICE**(52) **U.S. Cl.**  
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**H01L 27/02** (2006.01)(57) **ABSTRACT**

The present disclosure relates to a transient voltage suppression device comprising a single crystal semiconductor substrate doped with a first conductivity type comprising first and second opposing surfaces, a semiconductor region doped with a second conductivity type opposite to the first conductivity type extending into the substrate from the first surface, a first electrically conductive electrode on the first side contacting the semiconductor region and a second electrically conductive electrode on the second side contacting the substrate, a first interface between the substrate and the semiconductor region forming the junction of a TVS diode and a second interface between the first electrically conductive electrode and the semiconductor region or between the substrate and the second electrically conductive electrode forming the junction of a Schottky diode.

