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(12) **United States Patent**  
**Kumar**

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(54) **T-SWITCH WITH REDUCED CURRENT LEAKAGE**

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See application file for complete search history.

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**H03K 17/16** (2006.01)  
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CPC ..... **H03K 17/16** (2013.01); **H03M 1/12**  
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(57) **ABSTRACT**

An apparatus is provided comprising a first t-switch, which includes an input port arranged to be connected to a first voltage source, a center-tap port, and an output port arranged to be connected to a load. The first t-switch is configured to connect the input port to the output port in an on mode and disconnect the input port from the output port in an off mode. The apparatus further comprises a bias voltage generation circuit configured to generate a bias voltage, the generated bias voltage coupled to the center-tap port of the first t-switch, the bias voltage determined based upon an output port voltage.

**20 Claims, 6 Drawing Sheets**

