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Susak et al.

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[54] **ZERO-CURRENT START-UP CIRCUIT**

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[52] **U.S. Cl.** **323/901**; 323/313; 363/49

[58] **Field of Search** 323/901, 313, 323/314; 363/49

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[57] **ABSTRACT**

A zero-current start-up circuit for a reference circuit which is initially unbiased and which has internal nodes that needs to be regulated to a predetermined voltage. When the start-up circuit is enabled, a switching transistor is turned on which enables the reference circuit to generate an internal reference current which regulates an output current to a predetermined value set by the reference circuit. The output current flows through a voltage drop device and when the voltage level reaches a predetermined value, the start-up circuit is disabled eliminating the current path.

26 Claims, 2 Drawing Sheets



