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(12) **United States Patent**
Boldo

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(54) **CONTROL CIRCUIT FOR A DC-TO-DC SWITCHING CONVERTER, AND THE USE THEREOF FOR MAXIMIZING THE POWER DELIVERED BY A PHOTOVOLTAIC GENERATOR**

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(21) Appl. No.: **11/415,827**
(22) Filed: **May 2, 2006**

(65) **Prior Publication Data**
US 2007/0024257 A1 Feb. 1, 2007

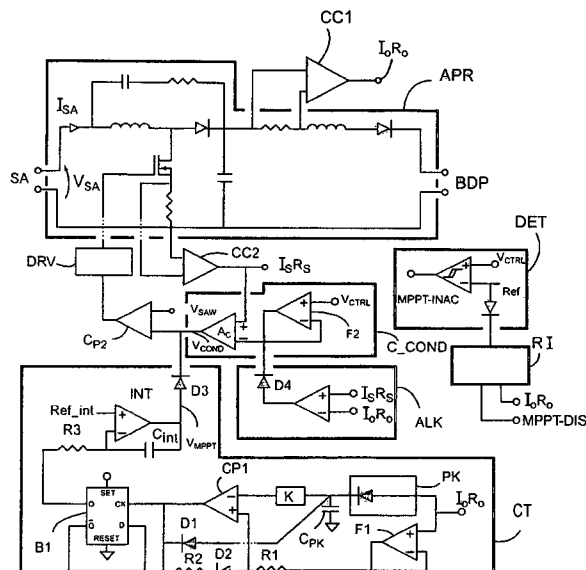
(30) **Foreign Application Priority Data**
May 2, 2005 (FR) 05 04441

(51) **Int. Cl.**
H02M 3/335 (2006.01)
(52) **U.S. Cl.** **363/89**; 363/97; 323/282; 323/906
(58) **Field of Classification Search** 323/222, 323/272, 273, 277, 259, 282-290, 268, 269; 363/41, 65, 49, 16-17, 98, 132, 89, 97; 307/23, 307/43, 44, 125
See application file for complete search history.

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(57) **ABSTRACT**
A control circuit for a switching DC/DC Converter comprising: an input for an indicator signal indicative of an output current level from said converter; a peak detector for detecting and storing a maximum value of said indicator signal; a comparator element for comparing an instantaneous value of said indicator signal with said stored maximum value, and for generating a switching signal when said instantaneous value becomes less than a predetermined fraction of said stored value; reinitializer means for reinitializing said peak detector in response to said switching signal; and means for generating a control signal that switches between a state in which it increases over time and a state in which it decreases over time in response to said switching signal. A control module for photovoltaic generator, the module including such a control circuit, and a photovoltaic generator system comprising a plurality of such modules, each controlling a respective photovoltaic generator.

12 Claims, 4 Drawing Sheets



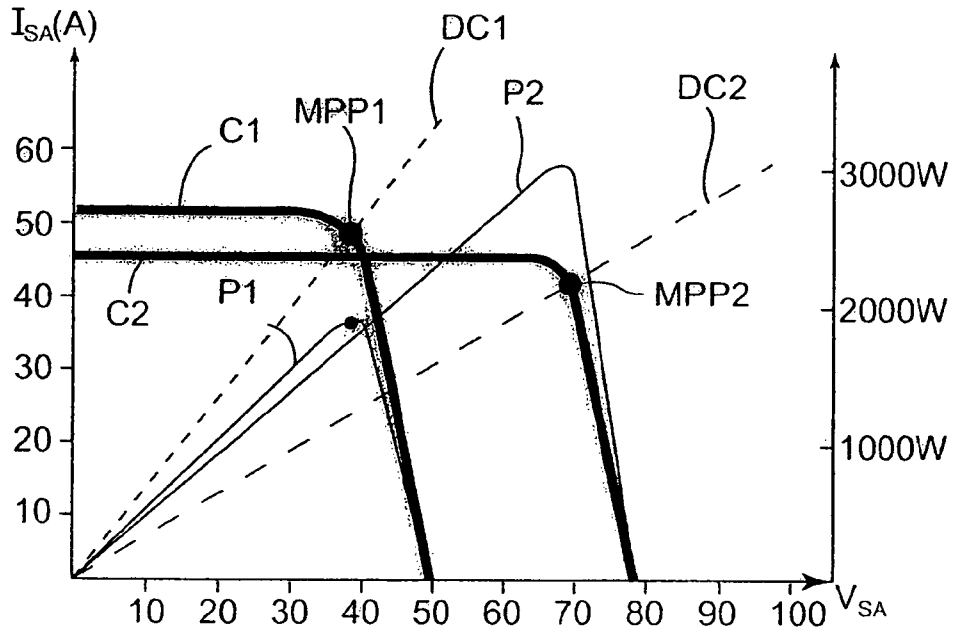


FIG.1

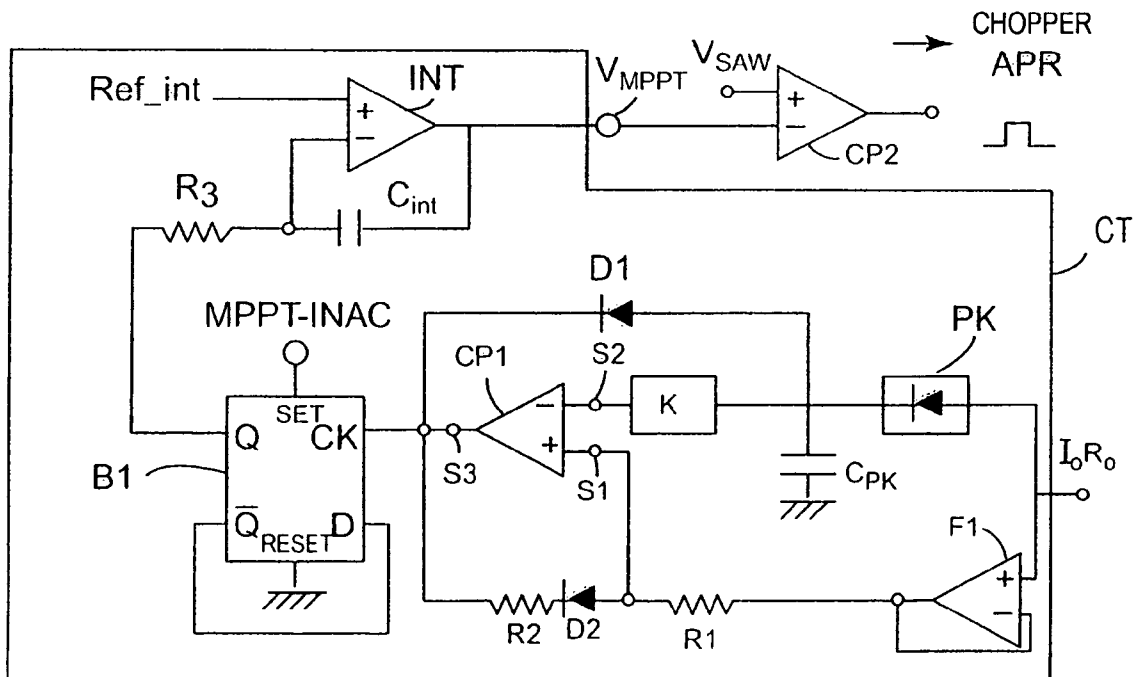


FIG.2

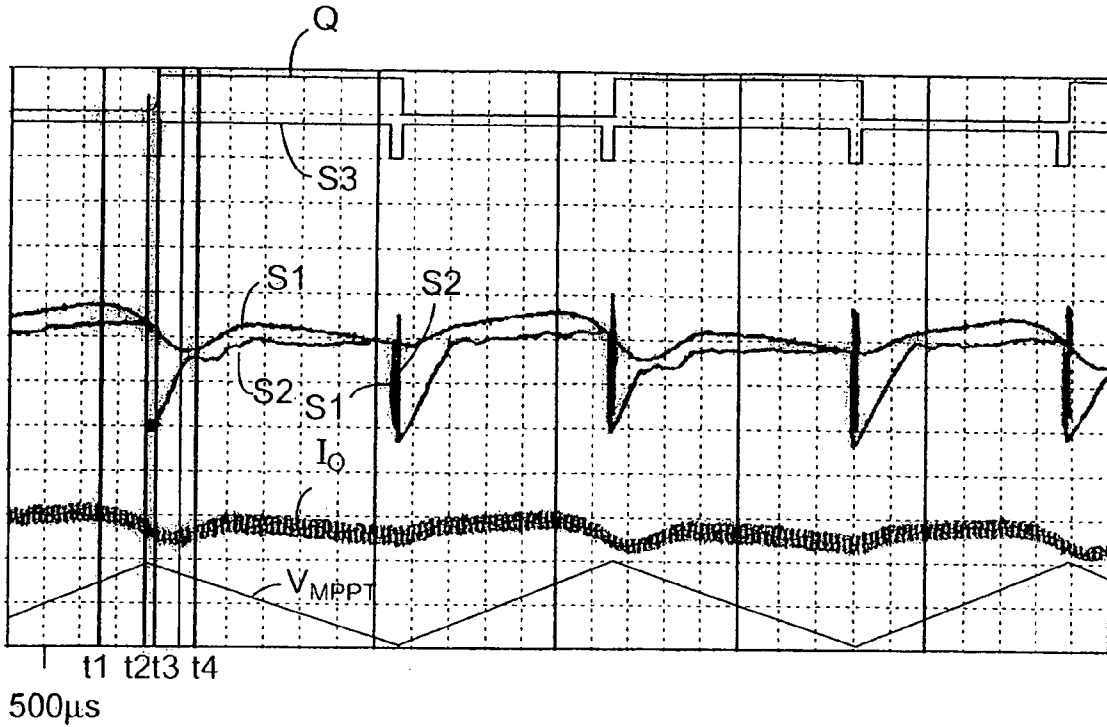


FIG.3

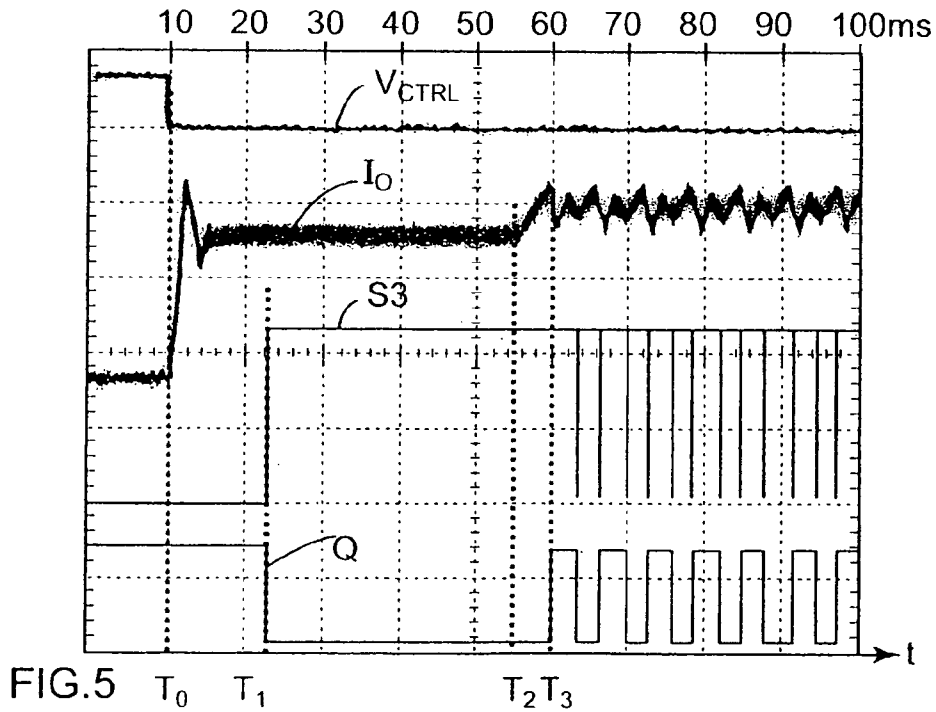


FIG.5 T₀ T₁ T₂T₃

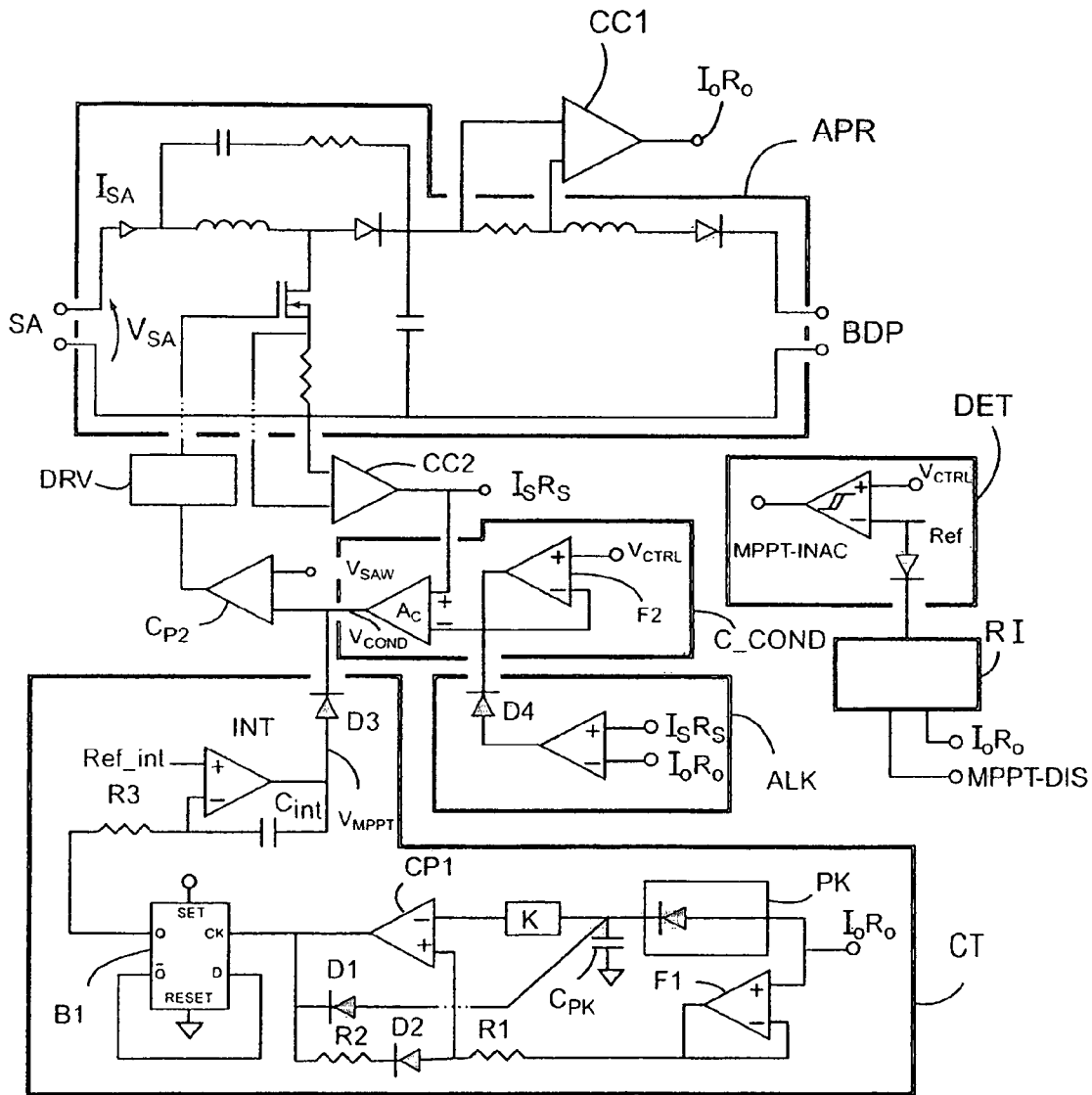


FIG.4

FIG. 6

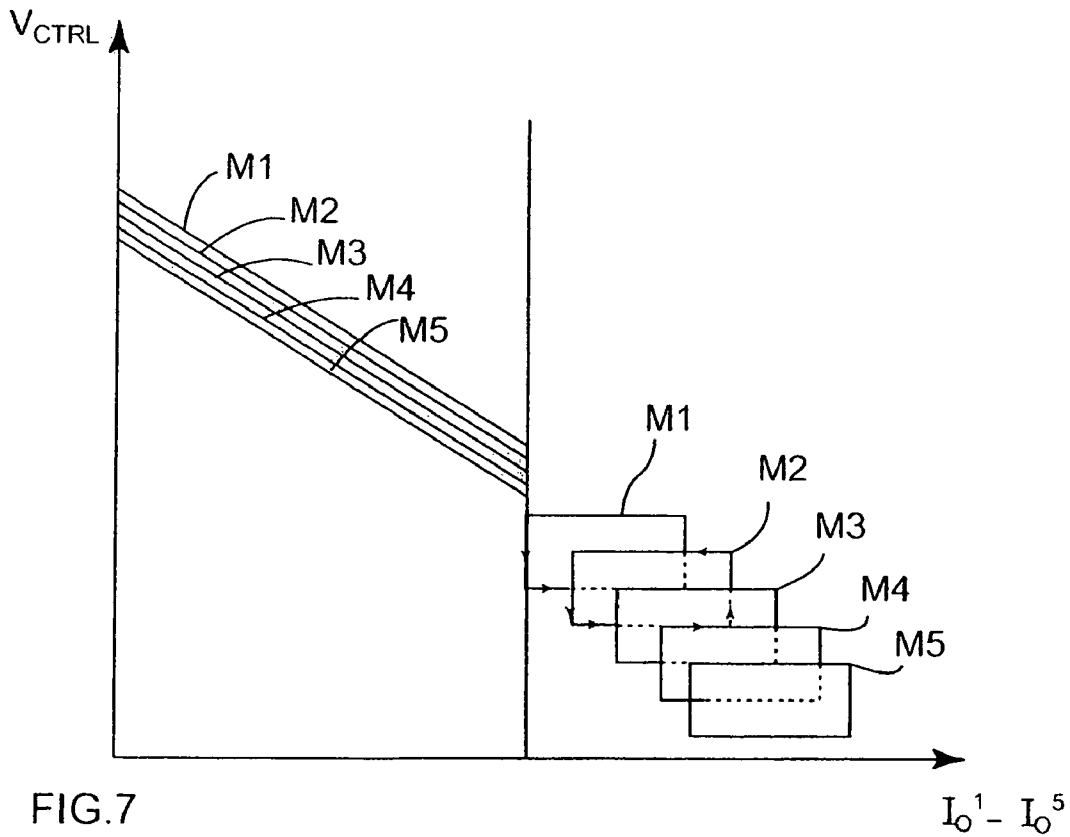
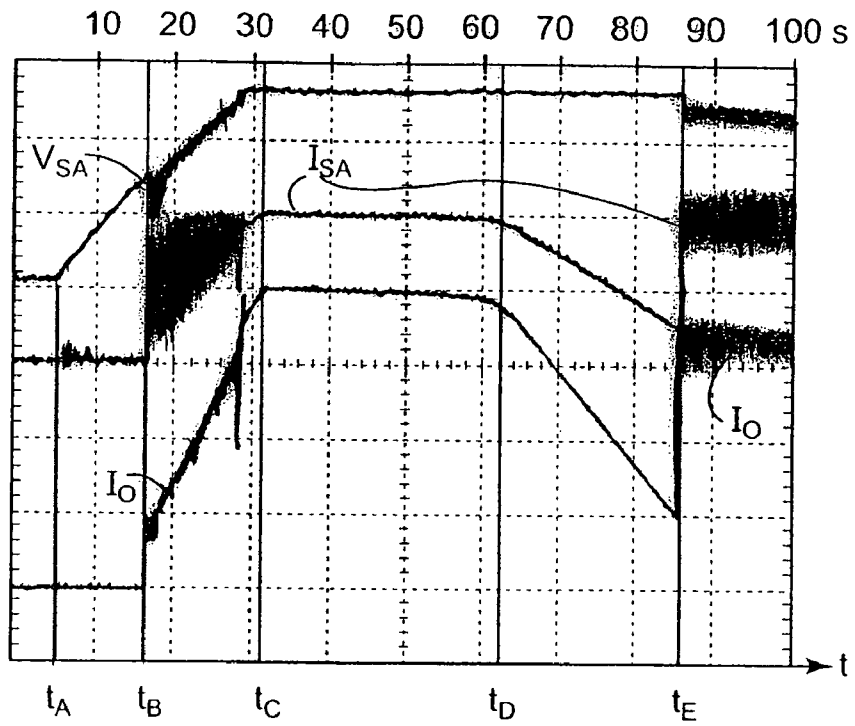


FIG. 7

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