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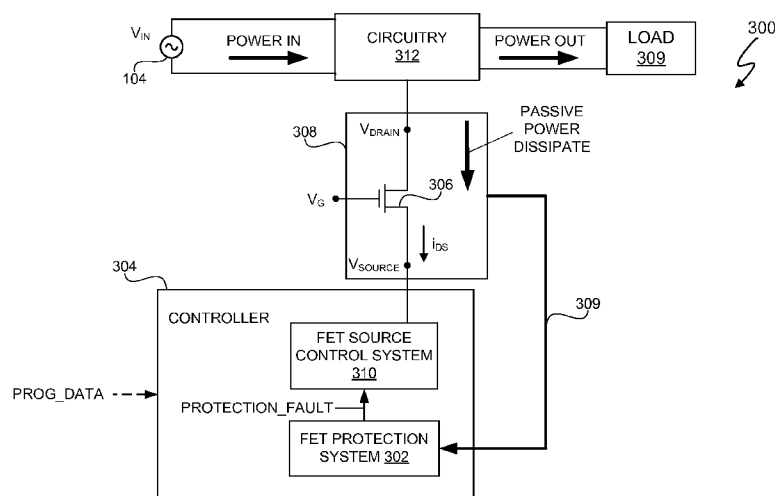
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(54) Title: ACTIVE THERMAL PROTECTION FOR SWITCHES



(57) Abstract: A system and method include a controller that reduces power dissipated by a switch, such as a source-controlled field effect transistor, when an estimated amount of power dissipated by the switch exceeds a predetermined threshold. Reducing the power dissipated by the switch prevents damage to the switch due to overheating. The controller determines the estimated amount of power dissipated by the switch using actual drain-to-source current and drain voltage data. In at least one embodiment, the controller includes a fail-safe, estimated power dissipation determination path that activates when the drain voltage data fails a reliability test. Additionally, in at least one embodiment, the controller includes a model of thermal characteristics of the switch. In at least one embodiment, the controller utilizes real-time estimated power dissipation by the switch and the model to determine when the estimated power dissipated by the switch exceeds a power dissipation protection threshold.



INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	paragraph [0070] - paragraph [0083]; figure 2	2-22, 24-45,47

X	US 2007/236155 A1 (KAO CHIN-FA [TW] ET AL) 11 October 2007 (2007-10-11)	1,23,46
Y	paragraph [0009] - paragraph [0022]; figure 2	2-22, 24-45,47

X	US 7 834 828 B2 (ARAKAWA RYUTARO [JP] ET AL) 16 November 2010 (2010-11-16) column 2, line 14 - column 4, line 3	1,23,46

A	US 2011/181199 A1 (LIN YUNG LIN [US] ET AL KUO CHING-CHUAN [TW] ET AL) 28 July 2011 (2011-07-28) the whole document	1,23,46
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Further documents are listed in the continuation of Box C.



See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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