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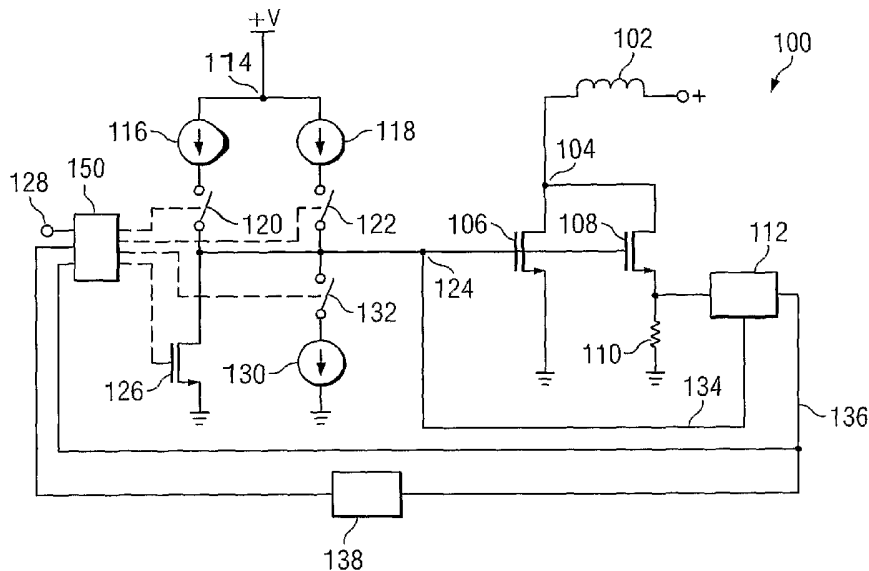
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**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: CURRENT LIMITING CIRCUIT FOR HIGH-SPEED LOW-SIDE DRIVER OUTPUTS



(57) Abstract: An FET switching transistor (106) for the solenoid coil (102) of an ABS braking system can be switched ON or OFF in no more than substantially 250 ns. A higher current biasing circuit for fast turn on of the FET switching transistor is disconnected when it is necessary to limit the current flowing therethrough, whether during the in-rush current to the solenoid coil or due to a fault in the system. The high speed switching of the FET switching transistor causes ringing of the current through the transistor which causes the current detector circuit (112) to exit the current control mode. A deglitch circuit (138) prevents the current detector from exiting the current control mode, so that a timer can be used to turn off the FET switching transistor before it can be damaged by the heat generated during current limit operation.

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International application No.

PCT/US05/34594

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC: **H03B 1/00**( 2006.01)

USPC: 327/110,389,427

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)  
U.S. : 323/225, 271, 289; 327/108, 109, 110, 111, 372, 387, 388, 389, 427

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)  
EAST

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,333,665 A (Ichikawa) 25 December 2001 (25.12.2001), Fig. 9.	
A	US 5,936,387 A (Tabata et al.) 10 August 1999 (10.08.1999), Fig. 1.	
A	US 5,796,278 A (Osborn et al.) 18 August 1998 (18.08.1998), Fig. 4.	

Further documents are listed in the continuation of Box C.

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