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(54) Title: A METHOD OF PROTECTION FROM OVER-TEMPERATURE AND CORRESPONDING ARRANGEMENT

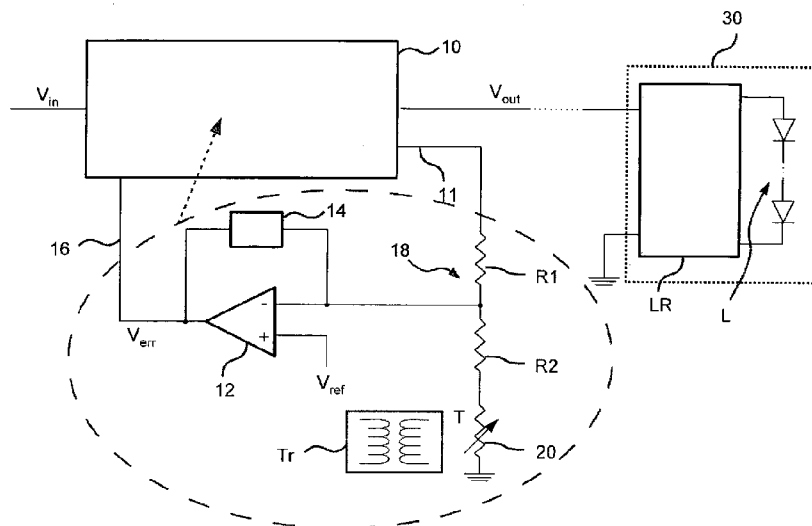


Fig. 2

(57) Abstract: An arrangement for protecting from over-temperature a device, such as a transformer (Tr) associated with an electronic converter (10) including a feedback path (11, 12 to 18) for regulating the output signal (V_{out}) of the electronic converter (10). The arrangement includes a thermal sensitive component (20) sensitive to the temperature of the aforesaid device (Tr). The thermal sensitive component (20) is included in the feedback path (11, 12 to 18) of the electronic converter (10) to reduce the output signal (V_{out}) of the electronic converter (10) as a function of the temperature of the device (Tr) as sensed by the thermal sensitive component (20).



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INTERNATIONAL SEARCH REPORT

International application No

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A. CLASSIFICATION OF SUBJECT MATTER

INV. H02M1/32

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)

H02M

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 practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2007/139837 A1 (HIROSHI USUI ET AL.) 21 June 2007 (2007-06-21) abstract figures 1-4 paragraphs [0002], [0006], [0010], [0020], [0022], [0023], [0031], [0034], [0046], [0047], [0053] claims 1,2	1,3-7,9, 11 2,8,10
X Y	JP 01 122367 A (NEC CORP.) 15 May 1989 (1989-05-15) abstract	1,4-6,11 12-16
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 078 511 A (GREG H. FASULLO ET AL.) 20 June 2000 (2000-06-20) abstract figures 3,4 column 1, line 6 - line 9 column 1, line 21 - column 2, line 5 column 3, line 1 - line 8 column 3, line 20 - line 25 column 3, line 35 - line 47 column 4, line 7 - line 23 column 4, line 34 - line 40 column 4, line 61 - column 5, line 6 -----	2,10
E	EP 1 933 439 A (ROHM CO. LTD) 18 June 2008 (2008-06-18) paragraphs [0001], [0002], [0005], [0026], [0027], [0031], [0032] figure 2	2,10
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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

International application No.
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11

An over-temperature protection arrangement associated with an electronic converter, with shut-down of the converter if the temperature of a converter device reaches an upper temperature threshold.

2. claims: 12-16

An over-temperature protection arrangement associated with an electronic converter, the protection arrangement being used for a transformer.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2008/000592

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