

Title (en)

Method to derive a temperature independent voltage reference and a circuit to derive such a voltage reference

Title (de)

Verfahren zur Gewinnung einer temperaturunabhängigen Spannungsreferenz sowie Schaltungsanordnung zur Gewinnung einer derartigen Spannungsreferenz

Title (fr)

Methode d'obtention d'une référence de tension en dépendance de temperature et une circuit d'en obtenir

Publication

**EP 1132794 B1 20040526 (DE)**

Application

**EP 01890066 A 20010307**

Priority

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Abstract (en)

[origin: US2001026188A1] In a method for obtaining a temperature-independent voltage reference by an energy gap reference circuit using at least one bipolar transistor and a voltage source, only a single bipolar transistor is connected in series with a resistor. Different voltages are facultatively applied to the resistor. The voltages are detected upstream and downstream of the series resistor and fed to an A/D converter. The gain constant of the A/D converter is calculated from the digitalized measurements and used for measurement correction. The circuit arrangement for obtaining such a temperature-independent voltage reference includes a bipolar transistor and a resistor connected in series with the transistor. An A/D converter configured to yield digitalized voltage measurements is connected via switches to ports provided on either side of the resistor. The digital signals from the A/D converter are fed to a computer to determine the gain constant, from which the corrected voltage signal can be read out digitally.

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