

參考電壓電路

一種參考電壓電路，至少包括：具有第一輸入端、第二輸入端和輸出端的放大器；第一 pnp 雙載子電晶體，其基極和集極皆接地；第一電阻，其一端連接至第一 pnp 雙載子電晶體的射極，另一端連接至放大器的第一輸入端；第二電阻，其電阻值為第一電阻的 $((1/a)-1)$ 倍，且一端連接至放大器的第一輸入端，另一端連接至放大器的輸出端；第五電阻；數個第二 pnp 雙載子電晶體，且這些第二 pnp 雙載子電晶體的基極和集極接地，射極則電性連接至第五電阻的一端；第三電阻，其一端電性連接至放大器的第二輸入端，另一端則電性連接至第五電阻的另一端；以及第四電阻，其

REFERENCE VOLTAGE CIRCUIT

A reference voltage circuit is disclosed. The reference voltage circuit comprises: an amplifier having a first input terminal, a second input terminal and an output terminal; a first pnp BJT transistor whose gate and collector are grounded; a first resistor, wherein one terminal of first resistor is connected with a emitter of the first pnp BJT transistor, and another terminal of first resistor is connected with the first input terminal of amplifier; a second resistor whose resistance is $((1/a)-1)$ times as much as that of the first resistor, and one terminal of second resistor is connected with the first input terminal of amplifier, and another terminal of second resistor is connected with the output terminal of amplifier; a fifth resistor; several second pnp BJT transistors whose gate and collector are grounded and emitters are connected



162162



G00002

電阻值為第三電阻的 $((1/a)-1)$ 倍，一端連接至放大器的第二輸入端，另一端連接至放大器的輸出端。由於放大器的兩個輸入端之電壓被適當提高，於高溫時放大器中的 NMOS 電晶體便能輕易被驅動，使得本發明之參考電壓電路能於高溫時提供準確的參考電壓。

electrically to one terminal of fifth resistor; a third resistor, wherein one terminal of third resistor is connected electrically with the second input terminal of amplifier, and another terminal of third resistor is connected electrically with another terminal of fifth resistor; a fourth resistor whose resistance is $((1/a)-1)$ times as much as that of third resistor, and one terminal of fourth resistor is connected with the second input terminal of amplifier, and another terminal of fourth resistor is connected with the output terminal of amplifier. Since the voltages at two input terminals of amplifier are increased appropriately, the NMOS transistor of amplifier is driven effortlessly at high temperature. Therefore, an accurate reference voltage is provided at high temperature by utilizing the reference voltage circuit of the present invention.