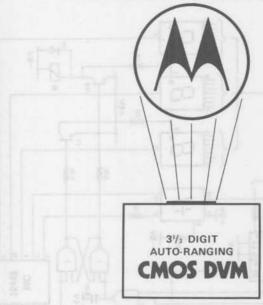
The ONE page APPLICATION IDEA FROM MOTOROLA



The MC14433 is a CMOS monolithic 3½ digit A/D converter. This device may be used as the basis for an accurate DVM. Only 5 integrated circuits are needed, MC14433 (A/D converter), MC14511 (BCD to 7-segment decoder), MC75492 (LED digit driver), MC1403 (2.5 volt reference), MC14013 (D Flip-flop for sign and over-range). The application shown here is an autoranging DVM, using a few addition parts, and has the following features:

- Bipolar input
- Auto-Polarity
- Input Voltage Range

Up to ± 19,99 Vdc (first range)

± 20,0 V to ± 199,9 Vdc (second range)

- Accuracy

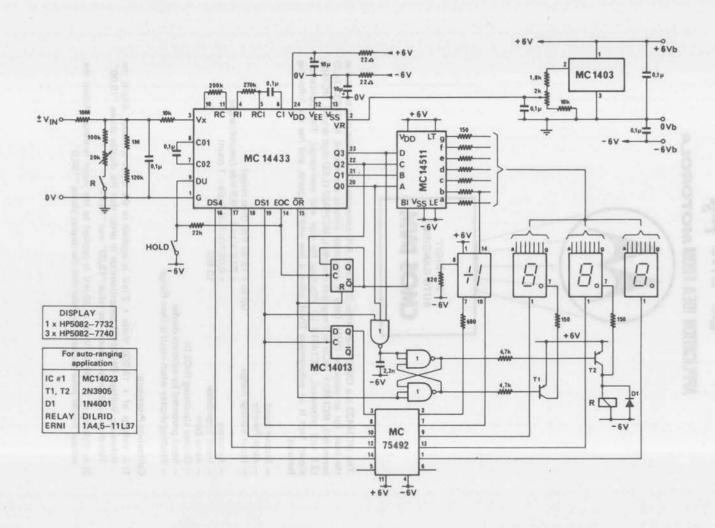
- ± 0,05 º/o Full Scale ± 1 count
- Input Impedance
- 10 MΩ

- Auto-Zero
- Display Up-dating (HOLD)
- Input protected by subtrate diodes
- Flashing display when input is Over-Range

Calibration Procedure:

- A Voltage of ± 19,900 Volts ± 2 mV is applied to the input terminal. Adjust the Reference Voltage (MC1403) potentiometer in order that the display shows "19,90". This occurs mid-way between the value "19,89" and "19,91".
- A Voltage of ± 199,00 Volts ± 20 mV is applied to the input terminal. Adjust the voltage divider potentiometer in order that the display shows "199,0".

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