

**GENERAL DESCRIPTION**

The MSW06 is a programmable DC Source (DCS IC), able to give a 4 quadrants regulated voltage, so it can supply positive/negative voltages and currents in all available combinations.

User can set the voltage he wants to regulate on DCsense out pin, choosing from 9 different ranges ( $\pm 2V$ ,  $\pm 3V$ ,  $\pm 5V$ ,  $\pm 10V$ ,  $\pm 20V$ ,  $\pm 50V$ ,  $\pm 90V$ ,  $\pm 180V$ ) also selecting the current (sunk or sourced) limitation threshold from 6 different ranges (20 $\mu A$ , 200 $\mu A$ , 2mA, 20mA, 200mA, 500mA).

The MSW06 can be also used as a meter, to measure the voltage on the load and the current through it, even during regulation, to verify the values of the selected quantities.

The DCS IC is constituted by 9 main circuit blocks:

- 2 Buck Converters (pulse skip mode) to supply voltages for the DC Source internal OPAMP (reducing power dissipation)
- DC source regulator (programmable voltage, sink/source current)
- Current Monitor (to measure the current that is flowing through the output)
- A/D converters to digitalize load voltage and current
- Voltage monitors to control some internal critical nets
- Pass switches to connect or disconnect the source (e.g. from the load)
- Thermal circuit to monitor IC temperature thanks to an alarm
- Guard available to drive the shield of a force/sense pair (with alarm circuit)

**FEATURES**

- 9 SELECTABLE VOLTAGE RANGES TO OBTAIN A REGULATED VOLTAGE UP TO 180V
- 6 SELECTABLE CURRENT RANGES TO OBTAIN A LIMITED OUTPUT CURRENT THROUGH THE LOAD, UP TO 500mA
- 3 SELECTABLE OPERATING MODES (FAST, NORMAL, SLOW)
- INTEGRATED HIGH RESOLUTION VOLTAGE AND CURRENT METER
- INTEGRATED CLAMP CIRCUITRY
- OVER TEMPERATURE PROTECTION
- OVER VOLTAGE PROTECTION
- OVER CURRENT PROTECTION
- LONG LIFE

**APPLICATIONS**

- SEMICONDUCTOR AUTOMATIC TEST EQUIPMENT
- PRECISION MEASUREMENT INSTRUMENTS

**PIN CONFIGURATION & FUNCTIONAL DIAGRAM**

