



5A High current Low Voltage Drop Linear Regulator (LDO)

1 Main features:

- ◆ Input voltage range: $V_{in}+1V$ to 26V
- ◆ 5A current load capacity
- ◆ Output voltage accuracy is 1%
- ◆ Output voltage: 1.25V to 25V
- ◆ Ultra-low pressure drop: 370mV@5A
- ◆ Battery reverse protection
- ◆ Excellent transient response
- ◆ Package: TO263-5

2 Typical application

- ◆ Battery powered equipment
- ◆ Efficient computing system
- ◆ Automotive Electronics
- ◆ Efficient linear low-voltage power supply system
- ◆ Efficient switching power supply regulator
- ◆ Field programmable gate array (FPGA)

) application

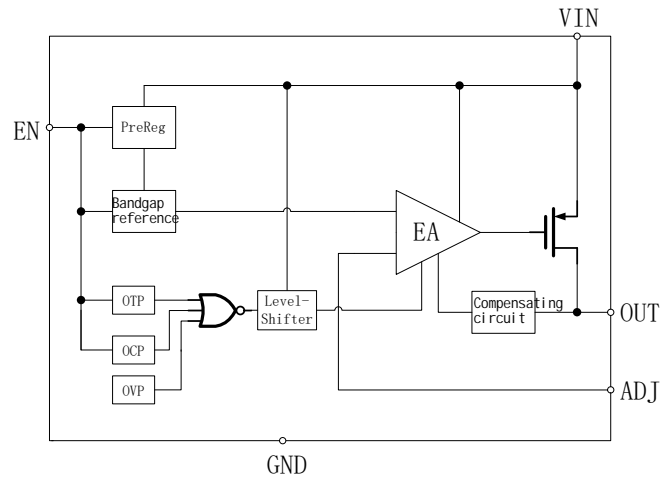
3 Product description

HL29502 is a high-current, high-precision, low-voltage linear regulator, the product's voltage drop value can be as low as 370mV, and the chip current to the ground is very small, you can get relatively high efficiency. Although the product is designed for high current load applications, the characteristics of low voltage drop and small ground current enable the chip to be used for low current applications, especially in systems requiring low voltage drop. With the enable input and power normal output, power-on sequencing can be easily achieved with an external regulator. HL29502 built-in overcurrent protection circuit, overtemperature protection current and battery reverse protection circuit,

5 Compared with similar foreign products

	precision	Output range	Pressure drop	Current to earth	Output current	Linear adjustme rate	Encapsulation form
MIC29502 (Micrel)	1%	1.25V - 25V	370mV@5A	15mA@2.5A	10mA - 5A	0.5%	TO263-5
HL29502	1%	1.25V - 25V	500mV@5A	7mA@2.5A	10mA - 5A	0.5%	TO263-5

to ensure that the chip can effectively prevent the damage to the rear circuit in all cases. The HL29502 can provide a stable output in the current range of 10mA to 5A, which can meet the needs of a variety of power systems. The chip adopts TO263-5 package, which has low package parasitism effect. The internal structure block diagram of the chip is as follows:



4 Product highlights

- ◆ The current carrying capacity of 10mA to 5A can be adapted to the needs of various power systems.
- ◆ Built-in loop compensation circuit, peripheral only need a few devices can make the system stable, easy to use.
- ◆ With a high-precision reference voltage circuit and error amplifier, output voltage accuracy of 1% is guaranteed over the entire temperature, voltage and load range.
- ◆ Excellent transient response performance.
- ◆ Built-in over current protection, over temperature protection and battery reverse protection circuit, high safety, to avoid damage to the circuit after.
- ◆ Enable the signal end to easily implement power-on sequencing.