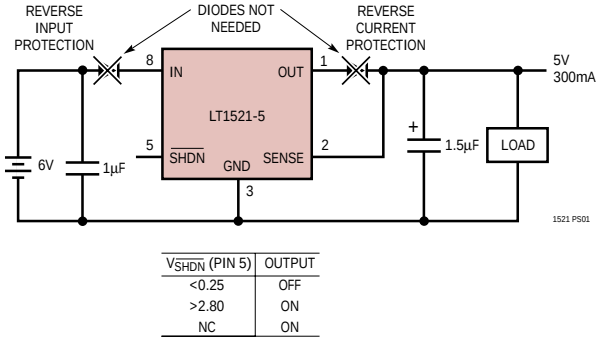
Battery-Powered 5V Supply Extends Battery Life

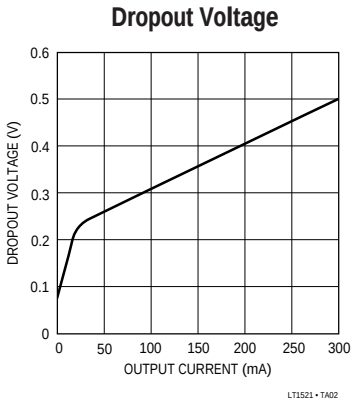
Long battery life and small PCB footprint are major design goals in portable, battery-powered devices. The LT1521-5 is a micropower linear regulator that uses just 12µA of quiescent current and can supply up to 300mA of load current. An active low shutdown input allows the regulator to be turned off, resulting in a shutdown current of 6µA, minimizing battery drain. The LT1521 has just 0.5V dropout at 300mA current, making it ideal for extracting as much energy as possible as battery voltage drops during discharge. In dropout the output voltage will decrease smoothly, following the input. The quiescent current of the LT1521 increases only slightly in dropout compared with many other low dropout PNP regulators.

The LT1521 is protected from reverse current flow and can be used in systems where the input voltage may be removed while the output is held high. Protection diodes are not needed to prevent reverse output current or protect against reverse-battery conditions. Older regulators required output capacitors of 10µF to 100µF. Only a 1.5µF output capacitor is needed with the LT1521, making this a very small footprint surface mount solution.

The LT1521 is available with fixed 3V, 3.3V, 5V or adjustable outputs in either MSOP or SO8 packages or fixed 3V, 3.3V, 5V outputs in a SOT-223 package. Commercial operating junction temperature range is 0°C to 125°C.



$V_{\overline{SHDN}}$ (PIN 5)	OUTPUT
<0.25	OFF
>2.80	ON
NC	ON



Source: LT1521 Data Sheet
www.linear-tech.com/portable.html