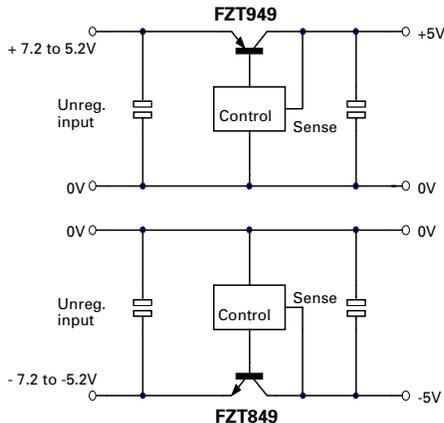


## Low Drop Out Linear Regulators



Unlike standard regulator circuits and ICs which need at least 2V or more across the series pass transistor to operate, low drop out (LDO) regulators can function with only 100 - 200mV differential.

Low drop-out voltage regulators are essential for many battery powered applications including computers and other logic applications, in order to maximise useful battery life and reduce re-charge frequency.

Automotive electronics is another applicable area, where in engine management systems they are employed to ensure that the circuitry is correctly powered even when the automobile is cranking, and the battery's terminal voltage has fallen to 6 or 7V. They are also useful in mains powered

applications where power dissipation / heatsink savings can be realised.

The ultra low saturation voltage of the ZBD849 and ZBD949 transistors enable these linear regulators to operate at currents of 5A continuously with drop-out voltages of only 180mV for the NPN circuit and 350mV for the PNP.

Packaged in the compact TO126, these high performance transistors are easy to mount and can be used free-standing for lower output current applications. Surface mount and through-hole options are available in the SOT223 and E-Line (TO92 style) packages.

The control circuit used can be a standard IC such as the LT1123 or a discrete design if the application requires extra flexibility.