

A6850KL: Dual-Channel Switch Interface IC

The Allegro® A6850 is designed to interface between a microprocessor and a pair of 2-wire Hall effect sensors. The A6850 uses protected high-side low resistance DMOS MOSFETs to switch the supply voltage to the two Hall effect devices. Each switch can be controlled independently via individual ENABLE pins and both switches are protected with current-limiting circuitry. The output switches are rated to operate to 26.5 V and will source at least 25 mA per channel before current limiting.

Typical two-wire Hall sensor applications require the user to measure the supply current to determine whether the Hall sensor is switched on (magnetic field present) or switched off (no magnetic field present). This is usually accomplished by using an external series shunt resistor. In many systems, the sensed voltage is used as the input to a microprocessor analog-to-digital (A-to-D) input. This provides the system with an indication of the status of the two-wire switch as well as provides the capability for diagnostic information if there is an open or shorted sensor.

The A6850 eliminates the need for the external series shunt resistor in Hall sensor applications by incorporating an integrated current mirror which reports the Hall sensor supply current as a 1/10 value on the SENSE1 or SENSE2 output pin. A low current Sleep mode is available (<15 μ A) by driving both ENABLE pins low. Also, the A6850 can be used to interface to mechanical switches.

The A6850 is supplied in a very thin profile 8-pin Pb (lead) free SOIC package, with 100% matte tin leadframe plating.