

A3245

World's first omnipolar Hall-effect sensor for 3.6 V to 24 V applications

The A3245 from Allegro MicroSystems Europe is the world's first omnipolar Hall-effect device suited for 3.6 V to 24 V operation, making it ideally suited to use in automotive and industrial applications traditionally handled by reed switches.

The new digital switch offers improved reliability over reed switches and eliminates any requirement for signal conditioning. In addition, the omnipolar capability means that equipment designers do not have to worry about magnet orientation in position-sensing applications. The omnipolar feature allows operation with either a north or a south pole of sufficient strength turning the output 'on'; in the absence of a magnetic field, the output is 'off'.

Superior high-temperature performance is made possible through Allegro's patented dynamic offset cancellation technique, which reduces the residual offset voltage normally caused by device over-moulding, temperature dependencies and thermal stress.

The new device includes, on a single silicon chip, a voltage regulator, Hall-voltage generator, small-signal amplifier, chopper stabilisation, Schmitt trigger, and a short-circuit-protected open-collector output. An advanced BiCMOS wafer fabrication process results in excellent low-voltage operation, component matching, very low input-offset errors, and small component geometries.

The A3245 is targeted to the consumer, computer/office, industrial and automotive markets, and is rated for operation over a temperature range of -40°C to +150°C. The device is available in a 3-pin single-inline package (suffix 'UA') and a 3-pin surface-mount package (suffix 'LH').
