



Hall-effect latch IC offers improved switching repeatability in different package options

The new AI222 from Allegro MicroSystems Europe is an extremely temperature-stable and stress-resistant Hall-effect latch IC that offers improved switching repeatability in applications such as detecting the speed and direction of ring magnets for motor commutation in the automotive, industrial and consumer market sectors.

AI222

The new device, which is available in different package styles to provide an optimum configuration for most applications, is suited for operation over extended temperature ranges up to +150°C. Superior high temperature performance is made possible through dynamic offset cancellation, reducing the residual offset voltage normally caused by device overmoulding, temperature dependencies, and thermal stress.

The AI222 includes, on a single silicon chip, a voltage regulator, Hall-voltage generator, small-signal amplifier, chopper stabilisation circuitry, a Schmitt trigger, and a short-circuit protected open-collector output that can sink up to 25 mA.

An on-board regulator permits operation with supply voltages from 3.0 to 24 V. Significant advantages are realised by reducing the minimum operating voltage. This device can be used in 3 V applications, and additional external resistance can be added in series with the supply pin for greater protection against transient events.

Two package styles provide a magnetically optimised configuration for most applications. Package type LH is a modified SOT23W surface-mount package, while the UA is a three-lead, ultra-mini-SIP for through-hole mounting. Each package type is available as lead (Pb) free (suffix, -T), with a 100% matt tin-plated lead frame.