

## A118X

Programmable Hall-effect switch ICs are chopper-stabilised for stability at high temperatures

New from Allegro MicroSystems Europe, the A118X is a family of two-wire, unipolar Hall-effect switch ICs designed for use in automotive and industrial high-temperature applications.

The new devices use a patented high-frequency chopper-stabilisation technique in conjunction with Allegro's new DABIC5 BiCMOS wafer fabrication process to achieve magnetic stability and to eliminate the offsets which are normally inherent in single-element devices and can also result from harsh application environments.

The A118X family of devices incorporates a programmability function to allow for external trimming of the operating point. The programming is designed to be performed after final packaging of the sensor and placement of the device into the end-user application. This feature means that sensor switching performance can be optimised by compensating for variations caused by magnet and device placement tolerances.

On-chip transient protection is provided by a Zener clamp on the power supply which protects against overvoltage conditions on the supply line.

The output of the A118X family, with the exception of the A1180/2, will switch 'high' in the presence of a sufficiently large south-pole magnetic field and will switch 'low' with the removal of the field. The A1180/2 has the opposite polarity, switching 'low' in the presence of a sufficient magnetic field and 'high' with the removal of the field.

Two package styles provide a magnetically optimised option for most applications. Suffix 'LH' is a miniature low-profile package for surface-mount applications; suffix 'UA' is a 3-lead ultra-miniature single-inline package (SIP) for through-hole mounting.

The A118X Series is designed for 3.8-24 V operation, and is available for operating temperature ranges of -40°C to +85°C or -40°C to +150°C.

Factory programmed devices (A114X Series), as well as programming software and/or hardware demonstration kits, are also available.

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