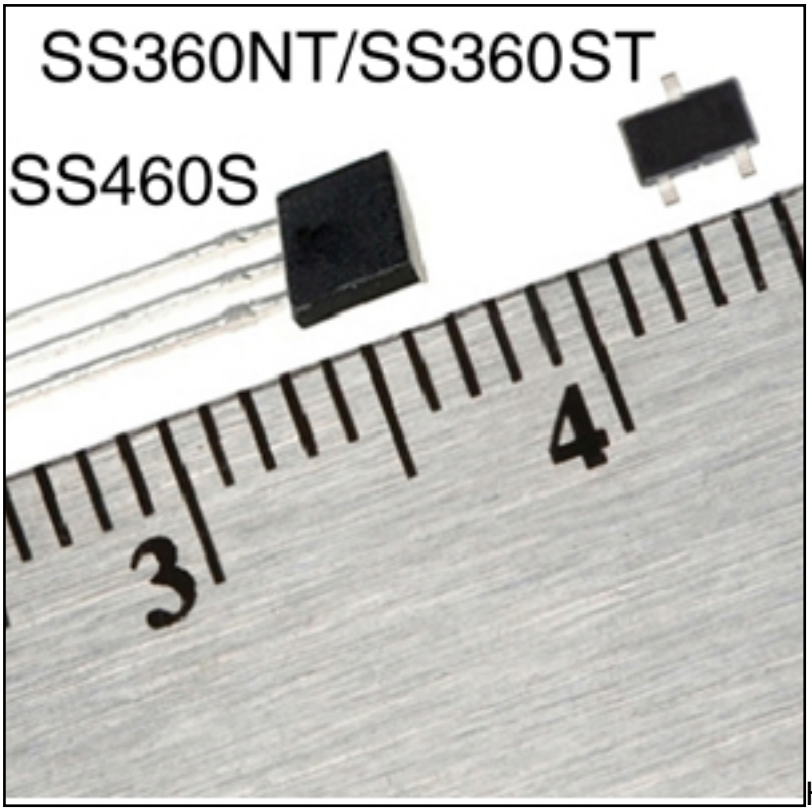
Hall-effect sensor ICs intended for accurate speed sensing and revolutions-per-minute measurement



Honeywell expands its magnetic position sensor product portfolio with the SS360NT/SS360ST/SS460S High Sensitivity Bipolar Latching Digital Hall-effect Sensor Integrated Circuits. Bipolar latching magnetics make these products well-suited for accurate speed sensing and revolutions-per-minute (RPM) measurement.

For brushless DC motor manufacturers that need latching sensor ICs with reliable, consistent performance for efficient and small designs, Honeywell's family of new High Sensitivity Latching Digital Hall-effect Sensor ICs respond to low magnetic fields and offer consistent repeatability while providing the fastest response to a change in magnetic field for enhanced motor efficiency. These new sensors offer reliable switching points with high magnetic sensitivity of 30 G typical (55 G maximum) without using chopper stabilization on the Hall element, resulting in a clean output signal and the fastest latch response time in its class.

"Brushless DC motor manufacturers need sensors with high sensitivity, stable magnetics, and very fast response times to commutate the motor as efficiently as possible," said Josh Edberg, global product marketing manager for Honeywell Sensing and Control. "By designing high-sensitivity sensor ICs without chopper stabilization, this family of sensors enables faster response times, which ultimately means more efficient motors."

These small, sensitive, and versatile devices are operated by the magnetic field from a permanent magnet or an electromagnet. They are designed to respond to alternating North and South poles.

The SS360NT/SS360ST/SS460S can be used in a wide range of applications. Potential industrial/commercial applications include brushless dc motor commutation, flow-rate sensing for appliances, speed and RPM sensing, tachometer/counter pickup, motor and fan control, and robotics control. Potential transportation applications include speed and RPM sensing, tachometer/counter pickup, motor and fan control, electronic window lifts, and convertible roof position. Potential medical applications include medical equipment that utilizes electric motors.

These devices operate over the full temperature range of -40 °C to 150 °C [-40 °F to 302 °F]. Two package styles are available: Subminiature, SOT-23 surface mount package (SS360NT/SS360ST) supplied on tape and reel allows for compact design with automated component placement; the small, leaded, flat TO-92-style package (SS460S) allows for a compact PC board layout.

The SS360NT/SS360ST/SS460S offer a wide operating voltage range of 3 to 24 Vdc, allowing for potential use in a wide range of applications. Built-in reverse voltage enhances the protection of the sensor and the circuits. Their durable design allows operation up to 150 °C [302 °F]. Additionally, RoHS-compliant materials meet Directive 2002/95/EC.

http://sensing.honeywell.com/ [1]

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