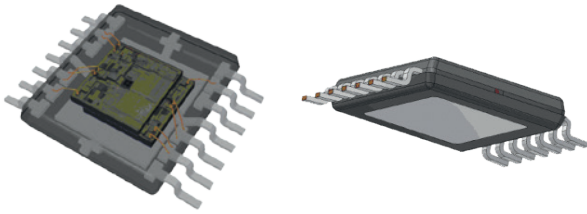


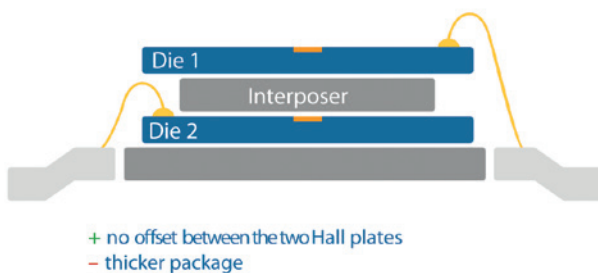
## DUAL-DIE HALL EFFECT SENSORS – HAR37XY



Source: Micronas

The new HAR37xy Halleffect sensors integrates two silicon dice in a single SOIC8 package for high-precision direct-angle and linear position measurement for the most demanding automotive and industrial applications.

Each HAR37xy sensor contains two dice, which are glued upon each other (stacked die). They operate fully independently – mechanically separated and electrically insulated from one another. The electrical connections of each die are bonded to opposite sides of the package, thus preventing shortages between both dice. The stacked-die construction offers the advantage that the two Hall elements measure almost the same magnetic field, therefore ensuring synchronous output signals.



Source: Micronas

The sensors operate in a junction temperature range from -40°C to 170°C. For storing calibration parameters, the sensor is equipped with a high-temperature resistant non-volatile

memory.

HAR37xy sensors follow the trend of enabling true redundancy within a small package to support safety-critical automotive applications according to ISO26262 rules.

Application examples are:

- » Clutch position detection
- » Motor air management, such as EGR (Exhaust Gas Recirculation)
- » Throttle position
- » Turbo charger actuator

Sensor solutions with redundancy in a single package reduce system costs while at the same time increasing the reliability of the system due to smaller PCBs (Printed Circuit Board) and less solder joints. Occasionally, the PCB design already considers redundancy functions. In such case, the customer can choose a single-die or a dual-die sensor for assembly.

The HAR37xy sensors comes in the same SOIC8 package as its parent family, the single-die HAL37xy. This leads to significant advantages: Customers already employing the single-die version can save most of the redesign efforts and can achieve fast time-to-market re-using the same magnetic circuit and module outline. Thanks to the same x/y positioning of the Hall elements, customers can use smaller magnets for their design compared to competitive solutions.

Samples of the HAR37xy family are available immediately. As design support you can use a Lab View-based software and high-quality application notes.

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