

Automotive-Qualified High-Side Switch ICs With User-Definable Protection

ROHM's family of four AEC-Q100 qualified high-side switch ICs targets the automotive market. Available in both one- and two-channel variants with $R_{DS(ON)}$ ratings of 45 m Ω (BV2HD045EFU-C/BV2HC045EFU-C), 70 m Ω (BV2HD070EFU-C) and 90 m Ω (BV1HD090F, a previously introduced, single-channel device), these intelligent power devices (IPDs) incorporate multiple protection functions, ranging from overcurrent protection (OCP) and thermal shutdown (TSD) to open load detection (OLD) and undervoltage lockout (UVLO), as well as a diagnostic output function (ST) for error detection (see Fig. 1).

In addition, the 70-m Ω BV2HD070EFU-C and 45-m Ω BV2HD045EFU-C/BV2HC045EFU-C two-channel high-side switches feature variable overcurrent detection (OCD) and OCD mask functions that allow users to set limits for the overcurrent threshold and time to achieve the optimum overcurrent protection for a given load. Built-in double error flags make it possible to distinguish between two different fault types for each channel output. The three new devices are housed in 16-pin HSSOPs (Fig. 2).

"These smart IPDs allow users to develop optimized solutions for resistive, inductive and capacitive loads in automotive applications, such as automotive ECUs and vehicle cabin climate control," stated Nobuyuki Ikuta, senior solutions marketing manager at ROHM USA.

For more information, see the high-side switch ICs [page](#).

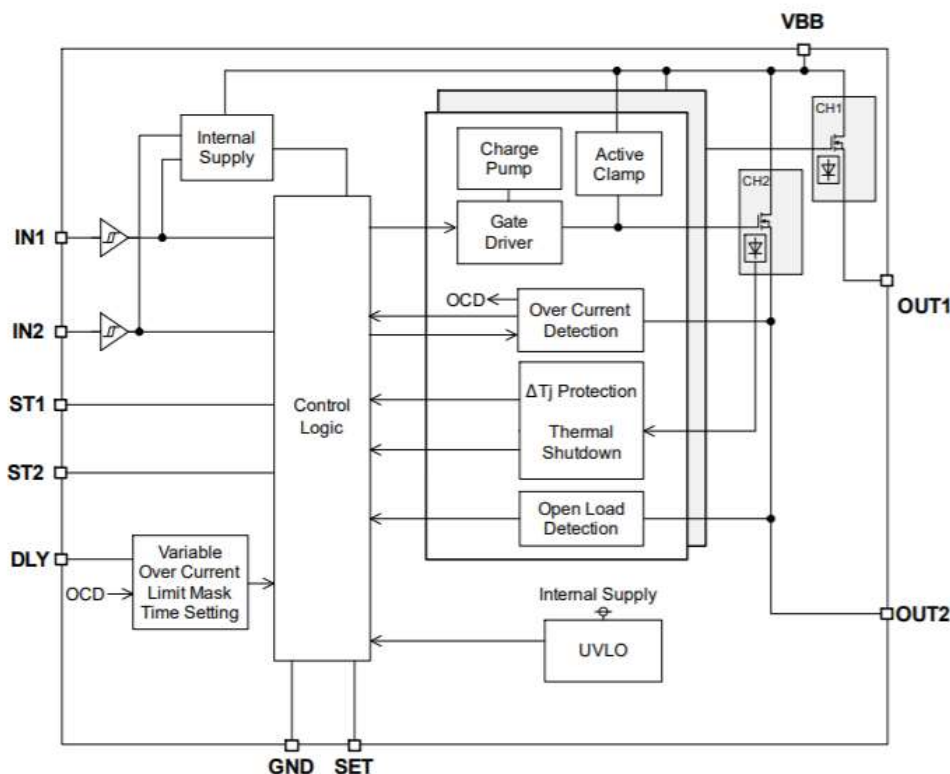


Fig. 1. Block diagram of the three new two-channel high-side switch ICs. The robust AEC-Q100-qualified devices include variable OCD and OCD mask functions, along with double error flagging.



Fig. 2. The BV2HD070EFU-C and BV2HD045EFU-C/BV2HC045EFU-C are packaged in 4.90-mm x 6.00-mm x 1.70-mm 16-pin HSSOPs.