



## Product brief

# OptiMOS™ 6 40V in HB SS08

## Optimized layout and higher current ratings for H-bridge and 3-phase mid-power applications

Infineon introduces its latest OptiMOS™ 6 40V power MOS technology in the 5 x 6 mm<sup>2</sup> HB SS08 leadless package with highest quality level and robustness for automotive applications.

The Half-Bridge HB SS08 product family consists of a portfolio of 6 products ( $R_{DS(on)}$  (max) from 3 mΩ to 7 mΩ) which enables the best product feet for the mid power motor-drives applications.

In order to enable IFX competitiveness in mid-power application, the new integrated half-bridge HB SS08 product would bring the following benefits:

- > Cost efficiency solution for mid-power drives applications Enhanced/Smart routing and optimized layout for H-bridge and 3-phase applications
- > Enables 3x higher current ratings: HB SS08 ( $I_d = 60$  A) vs. dual SS08 ( $I_d = 20$  A)
- > Latest OptiMOS™ 6 40V technology: enables optimized switching & power losses

### Key features

- > Enhanced/smart routing
- > Higher current ratings
- > Optimized switching and power losses ( $R_{DS(on)} \times Q_g$ )

### Key benefits

- > **Optimized layout** for H-bridge and 3ph app.
- > HB SS08 **3x higher current ratings** (HB SS08  $I_d = 60$  A vs. dual SS08  $I_d = 20$  A)
- > Optimized  $R_{DS(on)}$  for **low conduction losses** enabling high efficiency
- > Lower gate charge and  $Q_{rr}$  for **reduced switching losses**
- > **Small footprint** – 5 x 6 mm<sup>2</sup> SS08 leadless package
- > Extended ATV qualification (beyond AEC-Q101)

### Key applications

- > **Body:** power seats, window-lift, wiper, HVAC, etc
- > **Chassis:** electric parking break
- > **Power train:** water pump, fuel pump, oil pump

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Optimized layout and higher current ratings for H-bridge and 3-phase mid-power applications

Water-pump application diagram using 3x of OptiMOS™ 6 40V in HB SS08

**Summary of features**

- > Reference for EMC and thermal performance
  - > Optimized BOM and PCB size
  - > Power capability up to 140 W
  - > SWD port for debug connection
  - > LIN port
  - > High-temperature FR4 PCB, 4-layer copper
  - > Small 55 x 55 mm PCB size
- > Extensive documentation including
    - Layout files
    - Design guide
    - Schematics
    - Getting started guide
    - Hardware design guideline
    - EMC report
    - Thermal analysis



Product name	Voltage [V]	R <sub>DS(on)</sub> (max) [mΩ]	ID(max) [A]
IAUC60N04S6L030H	40	3.0	60
IAUC60N04S6N031H	40	3.1	60
IAUC60N04S6L045H	40	4.5	60
IAUC60N04S6N050H	40	5.0	60
IAUC45N04S6L063H	40	6.3	45
IAUC45N04S6N070H	40	7.0	45

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