

Product Brief

New 60V OptiMOS™5 in SSO8 and S3O8

A new product family targeting 12V and 24V applications

Infineon introduces its new 60V OptiMOS™5 power MOS front end technology in two leadless packages, the 5x6 mm² SSO8 (PG-TDSON-8) and 3x3 mm² S3O8 (PG-TSDSON-8) with highest quality level and robustness for automotive applications.

The new 60V technology OptiMOS™5 delivers more power and a leading performance. It offers reduced conduction losses and is optimized for drives and power conversion applications. Additionally, it provides an improved EMC behavior with the C_{iss} and C_{oss} being reduced by 70 percent, compared to the previous technology.

The SSO8 (PG-TDSON-8) package offers up to 120 A continuous current ratings, which is 20 percent higher than the standard DPAK at almost half of its footprint area. The footprint area of SSO8 is 33 mm² while the DPAK's is 65 mm². Moreover, the new generation of the SSO8 package enables superior switching performance and EMI behavior due to very low package inductance ($\approx 4x$ lower package inductivity vs traditional packages e.g. DPAK, D2PAK) by using the new copper-clip inter-contact technology.

The S3O8 (PG-TSDSON-8) package is suitable for very compact and robust automotive system solutions. The footprint of this package is less than 11mm² providing high current capability of up to 40A. Additionally, this package provides reduced package inductances and package parasitics as well as an improved solder contact area.

The new 60V product family is suitable for several 12V and 24V automotive applications, especially DC/DC, LED lighting, Wireless charging and all CAV (Commercial, construction and Agricultural Vehicles with a 24V board net) applications.

Key features

- > Lower package resistance and inductance
- > Small 5x6 mm² footprint of the leadless SSO8 package (PG-TDSON-8)
- > Small 3x3 mm² footprint of the leadless S3O8 package (PG-TSDSON-8)
- > Excellent thermal performance

Key benefits

- > Extended automotive qualification (beyond AEC-Q101)
- > Excellent thermal performance in compact form factor
- > Low gate charge and Qrr for reduced switching losses
- > 20% higher current capability (SSO8 vs. DPAK)

Key applications

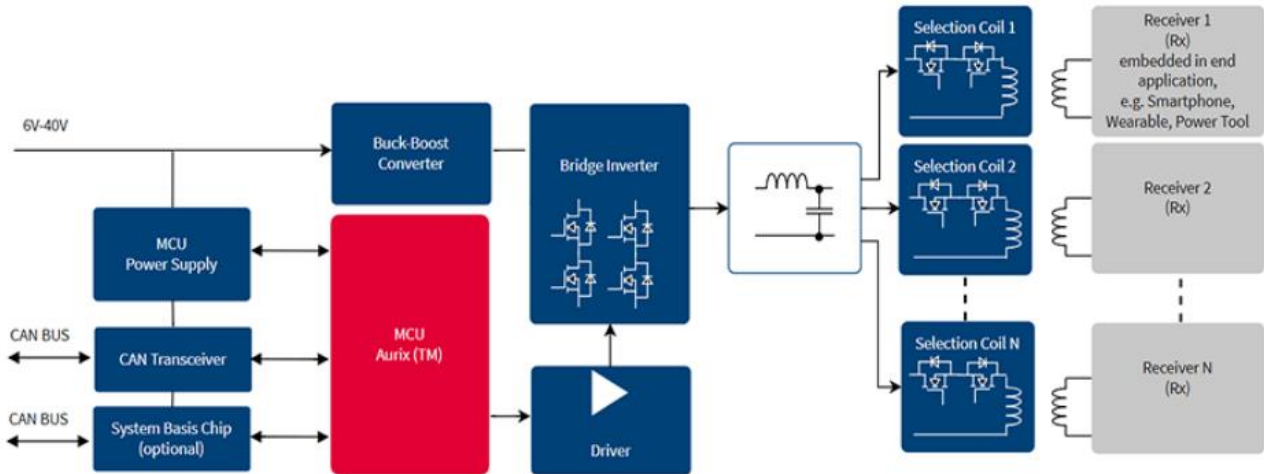
- DCDC
- LED lighting
- Wireless charging
- ADAS
- CAV (24V) applications



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Application Diagram for In Car Wireless charging



The following 60V OptiMOS™ 5 automotive MOSFETs are recommended to be used in the Selection Coils:
IAUZ30N06S5L140 and IAUC41N06S5L100

Product Table

Product Name	RDSon	ID	Package
IAUC120N06S5N017	1.7mΩ	120A	PG-TDSON-8
IAUC120N06S5L032	3.2mΩ	120A	PG-TDSON-8
IAUC41N06S5L100	10mΩ	41A	PG-TDSON-8
IAUZ40N06S5N050	5mΩ	40A	PG-TSDSON-8
IAUZ30N06S5L140	14mΩ	30A	PG-TSDSON-8

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