

Product brief

OptiMOS™-5 80 V and 100 V in TOLL

The power choice for 48 V applications

Infineon introduces a new product family of 80 V and 100 V MOSFETs based on OptiMOS™-5 Silicon technology in the TOLL package (JEDEC name HSOF-8).

The family features unmatched lowest $R_{DS(on)}$ products in a 10 mm x 11 mm footprint (1.2 m Ω in 80 V and 1.5 m Ω in 100 V) and a broad selection of additional products to address the cost-performance demand of our customers' applications.

With this family Infineon intends to challenge the traditional SMD packages like D²PAK (TO263) and the through hole packages providing high current capability in a much smaller form factor, without sacrificing thermal performance. This is achieved thanks to the superior Silicon frontend technology and the extremely low thermal resistance of TOLL.

The family is mainly targeting applications in CO₂ friendly vehicles.

In 48 V mild hybrid cars, 80 V TOLL represents the ease of use solution for belt-driven/beltless starter generators and it is the optimal choice as battery disconnect switch; additionally it can be used as phase switch in 48 V to 12 V DC-DC converters. The 100 V TOLL MOSFETs are thought to address 48 V e-boosters and other 48 V auxiliaries applications.

In HEV, PEHV and BEV 100 V TOLL is the right fit for the secondary side synchronous rectification MOSFETs in HV/LV DC-DC converters.

Key features

Best Silicon technology and advanced packaging in one

- > Leading $R_{DS(on)}$ performance down to 1.2 m Ω (80 V) and 1.5 m Ω (100 V)
- > Low profile leadless package
- > Lower package resistance and inductance

Key benefits

- > Reduced conduction losses
- > Optimized switching performance
- > Reduced form factor compared to traditional SMD packages

Key applications

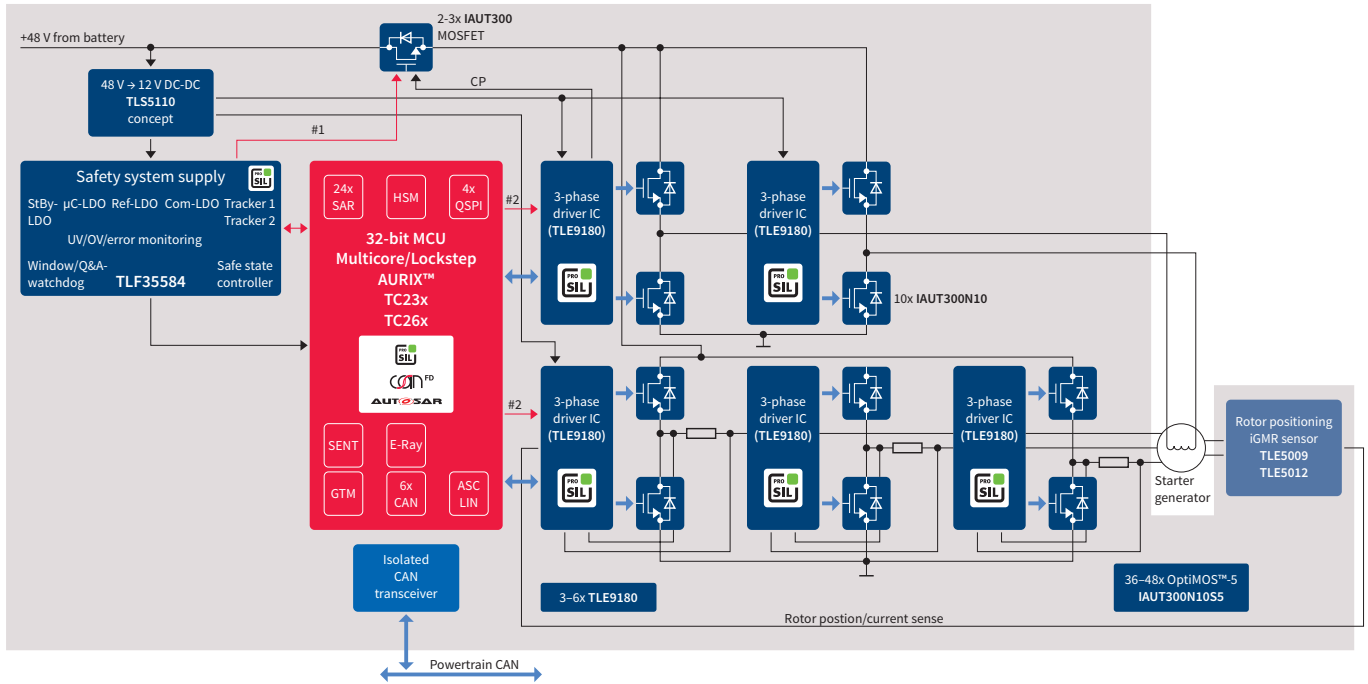
- > 48 V starter generators
- > 48 V disconnect switches
- > 48 V \rightarrow 12 V phase switches
- > 48 V e-booster
- > 48 V e-suspension
- > HV/LV DC-DC



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Application diagram: 100 V TOLL in for 48 V starter generator



Product table

Product name	Voltage [V]	$R_{DS(on)}$ (max) [mΩ]	I_D (max) [A]
IAUT300N08S5N012	80	1.2	300
IAUT300N08S5N014	80	1.4	300
IAUT240N08S5N019	80	1.9	240
IAUT200N08S5N023	80	2.3	200
IAUT165N08S5N029	80	2.9	165
IAUT300N10S5N015	100	1.5	300
IAUT260N10S5N019	100	1.9	260
IAUT150N10S5N035	100	3.5	150

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