



Product brief

PROFET™+2 12V Grade0

High-side switch portfolio with extended junction temperature up to 175°C

PROFET™+2 12V is the new generation of smart high-side switches for automotive and industrial applications based on SMART7 technology. The family provides outstanding energy efficiency with reduced current consumption, state of the art current sense accuracy (KILIS), benchmark low cranking voltage capability and faster switching/slew rate with no impact on EMC. The whole portfolio is qualified for automotive applications according to AEC-Q100 Grade1 and AEC-Q100 Grade0.

PROFET™+2 12V Grade0 portfolio consists of six different high-side switches (from 4mΩ to 80 mΩ) and offers an extended junction temperature up to 175°C. State-of-the-art protection and diagnosis features, as well as the PG-TSDSO-14 exposed pad package are the same for PROFET™+2 12V Grade0 and Grade1 devices.

Key features

- > Operating voltage range 3.1–28 V with 3.3 V and 5 V compatible logic input
- > Protection: current tripping, over temperature, overvoltage, load dump, reverse polarity, short-circuit
- > Diagnosis: load current sense output

Key benefits

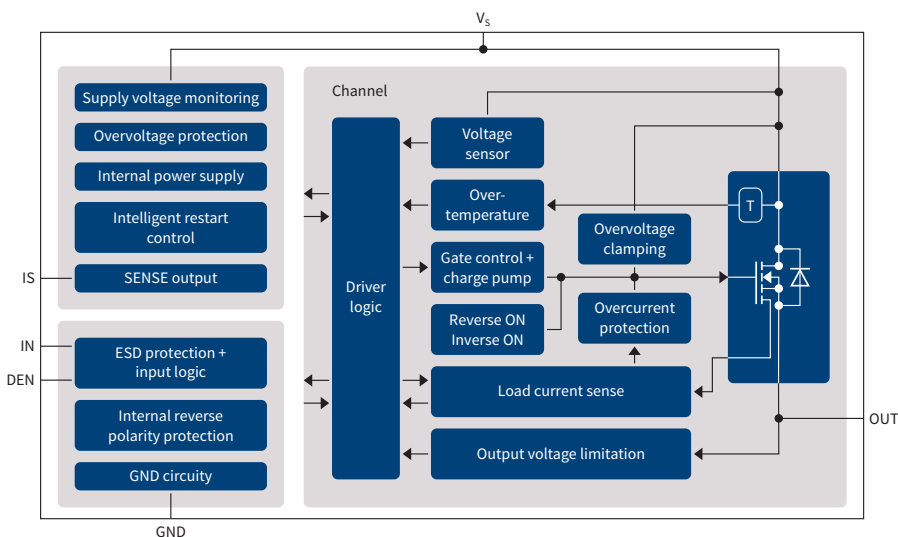
- > Extended thermal budget enables partitioning of higher ohmic parts at higher PCB temperature
- > Additional Grade0 qualification to fulfill requirements of extended mission profiles
- > Diagnosis concept tailored for power distribution
- > PROFET™+2 12V family approach

Key applications

Applications with extended or/and high temperature mission profiles:

- > Under the hood
- > Powertrain
- > Transmission

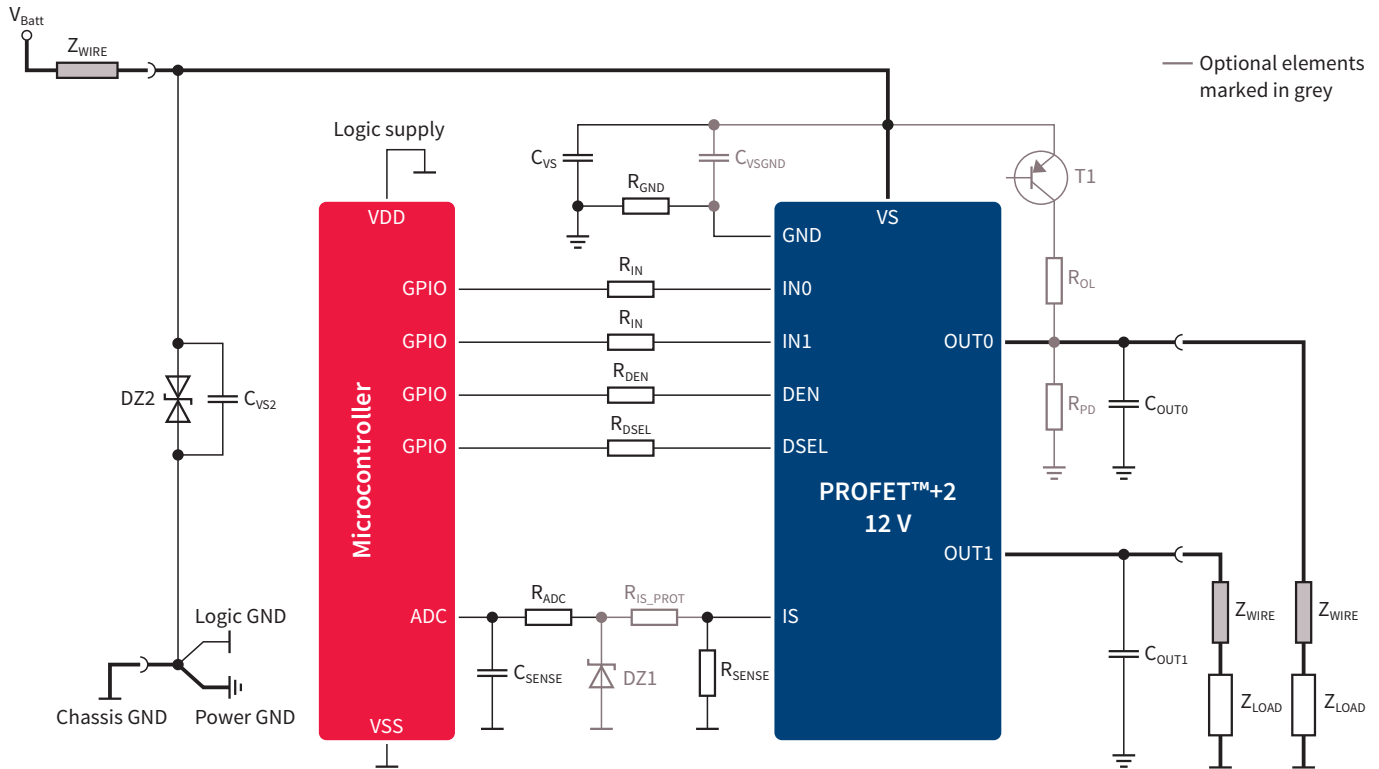
Block diagram



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Application diagram



Product table

Product	$R_{DS(on)}$ (typ) [mΩ]	$R_{DS(on)}$ (max) @ $T_j = 150^\circ\text{C}$ [mΩ]	Nominal load current [A]	E_{AS} [mJ]	Operating voltage range [V]	IL short circuit current [mΩ]	Number of channels	Load current trip	Sense enable	Open load in OFF	Latch	Reverse ON	Package name
NEW BTS7004-1EPZ	4.4	8.0	15.0	150	3.1 ... 28.0	107.0	1	●	●	●	●	●	TSDSO-14
NEW BTS7006-1EPZ	6.6	12.0	12.5	95	3.1 ... 28.0	89.5	1	●	●	●	●	●	TSDSO-14
NEW BTS7008-1EPZ	9.0	16.0	10.0	65	3.1 ... 28.0	88.0	1	●	●	●	●	●	TSDSO-14
NEW BTS7008-2EPZ	9.0	16.0	7.5	75	3.1 ... 28.0	88.0	2	●	●	●	●	●	TSDSO-14
NEW BTS7040-1EPZ	19.0	36.0	4.5	30	3.1 ... 28.0	46.0	1	●	●	●	●	●	TSDSO-14
NEW BTS7080-2EPZ	20.9	39.6	3.0	36	3.1 ... 28.0	36.0	2	●	●	●	●	●	TSDSO-14

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