

Product Brief

HITFET™+ standard family

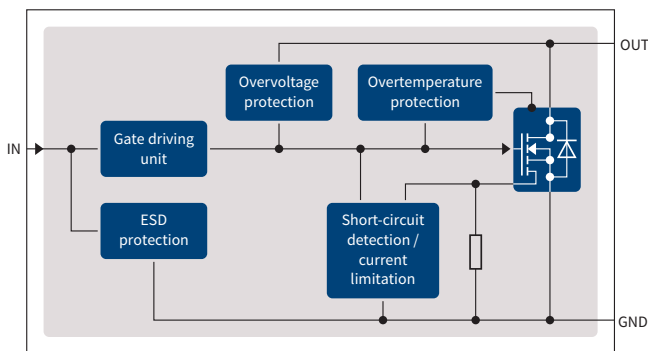
The ultimate design flexibility

HITFET™ stands for highly integrated temperature protected MOSFET. These low-side switches offer a compelling feature set with protections against overtemperature, short-circuit and overload conditions as well as ESD robustness. The HITFET™+ family is the new generation based on a new technology, enabling a significant shrink compared to the existing HITFET™ portfolio (up to 50% shrink). It also offers a highly scalable portfolio based on two different packages (TO252-3, TDSO-8) and two types of feature set (standard and fully featured HITFET™+ family) to match each application requirements.

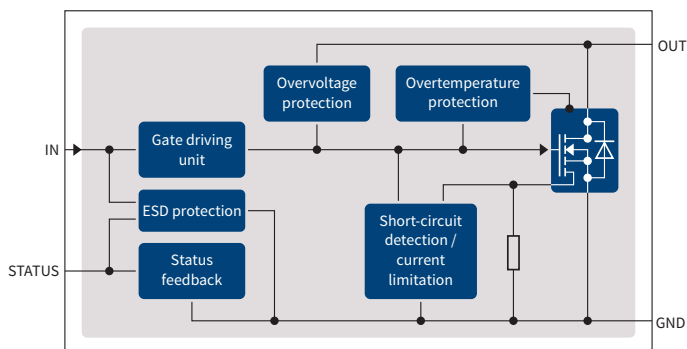
HITFET™+ family (35–125 mΩ) is automotive qualified and is optimized for 12 V automotive and industrial applications.

In this document one part of the HITFET™+ portfolio, with standard features has been described.

Block diagram for devices in TO252-3 package



Block diagram for devices in TDSO-8 package



Key features

- > Low-side switches with integrated protection features
- > Scalable in $R_{DS(on)}$ from 125 mΩ down to 35 mΩ
- > Short-circuit protection with auto-restart function
- > Active clamp overvoltage protection
- > Current limitation
- > Dedicated status signal (TDSO-8)

Key benefits

- > High design flexibility with scalable $R_{DS(on)}$ and package
- > Integrated solution reducing PCB area and enabling fast time to market
- > Diagnosis independent from input signal (TDSO-8)

Key applications

- > Suitable for resistive, inductive and capacitive loads
- > Replaces electromechanical relays, fuses and discrete circuits



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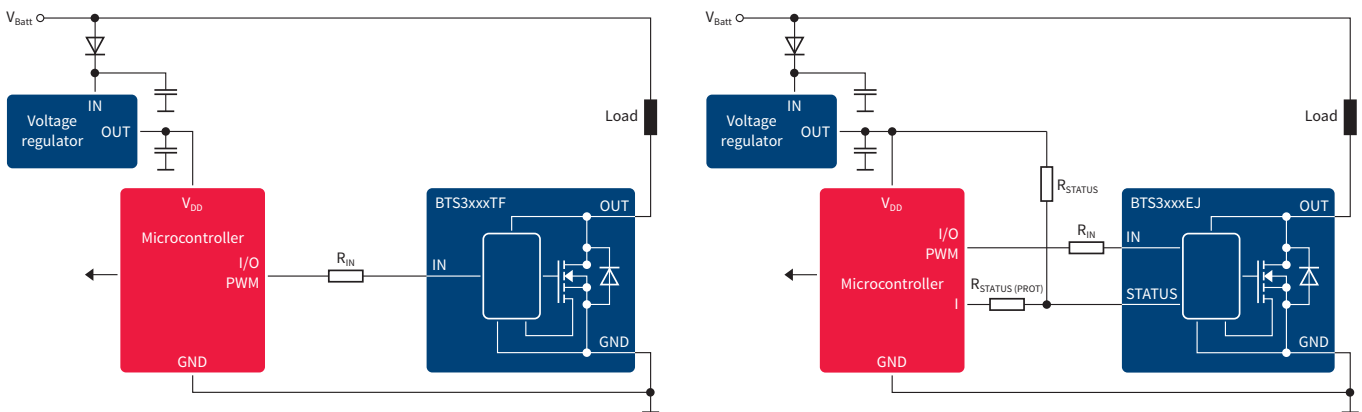
BTS3xxxTF (devices in TO252-3 package)

These devices in standard DPAK package offer a benchmark solution for applications with high thermal requirements and they are pin-to-pin compatible with the first generation HITFET™ devices in TO252-3 package.

BTS3xxxEJ (devices in TDSO-8 package)

The TDSO-8 package offers a footprint shrink off 50% compared to TO252-3 package and 35% shrink compared to SOT223 package. The devices achieve an outstanding thermal capability in such a small footprint and they provide a dedicated diagnosis signal via status pin.

Application diagram



HITFET™+ available products

Product type	R _{DS(on)} [mΩ]	R _{DS(on)} (max) @ 150°C [mΩ]	Nominal load current [A]	Current limitation [A]	Channels	Protection	Package
BTF3050TE	50	100	3	8	1	Auto-restart	TO252-5 (DPAK 5-leg)
BTS3035TF	35	70	5	20	1	Auto-restart	TO252-3 (DPAK)
BTS3035EJ	35	70	5	20	1	Auto-restart	TDSO-8-31
BTS3050TF	50	100	4	15	1	Auto-restart	TO252-3 (DPAK)
BTS3050EJ	50	100	4	15	1	Auto-restart	TDSO-8-31
BTS3060TF	60	135	3	10.5	1	Latch	TO252-3 (DPAK)
BTS3080TF	80	160	3	10	1	Auto-restart	TO252-3 (DPAK)
BTS3080EJ	80	160	3	10	1	Auto-restart	TDSO-8-31
BTS3125TF	125	250	2	7	1	Auto-restart	TO252-3 (DPAK)
BTS3125EJ	125	250	2	7	1	Auto-restart	TDSO-8-31

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