

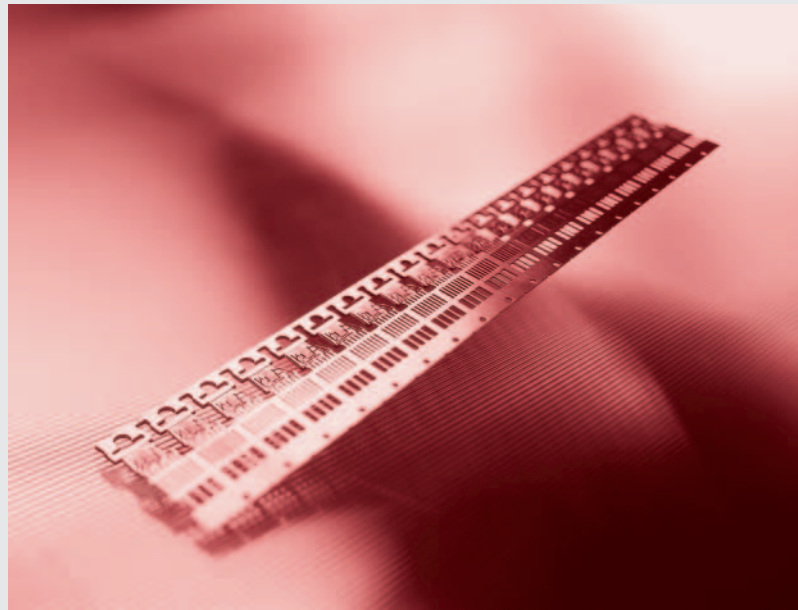
The BTS 6133D is a single channel high-side power switch (10 mΩ) in TO252-5 (DPAK 5 pin) package. It is fully protected by embedded protection functions including ReverSafe and InverSafe.

ReverSafe is a protection feature that causes the power transistor to switch on in case of reverse battery mode. As a result the power dissipation is reduced to almost forward condition. InverSafe functionality increases the device robustness during inverse current flow.

There is an IntelliSense pin combining a sophisticated diagnostic feedback signal and current sense function in one pin.

An optimized current limitation characteristic adjusts the maximum current according to the supply voltage. This behavior is ideal to handle the inrush current of lamps.

The power transistor is built by a N-channel vertical power MOSFET with charge pump and current controlled input pin. The device is integrated in Smart SIPMOS chip on chip technology.



BTS 6133D

Basic Functions

- Very low standby current
- Optimized electromagnetic compatibility (EMC)
- Fast demagnetization of inductive loads
- Wide operating voltage range
- ReverSafe, channel opens in case of reverse polarity
- InverSafe, normal operation even if high inverse currents occur in the application

Protective Functions

- Short circuit protection (latching shutdown)
- Current limitation
- Overload protection
- Thermal shutdown with restart
- Overvoltage protection (including load dump)
- Loss of ground protection
- Loss of V_{bb} protection (with external diode for charged inductive loads)
- Electrostatic discharge protection (ESD)

Diagnostic Functions

- Proportional load current sense signal
- IntelliSense: Current sense signal or fault signal
- Feedback of over load detection
- Feedback of short circuit shutdown
- Feedback of thermal shutdown

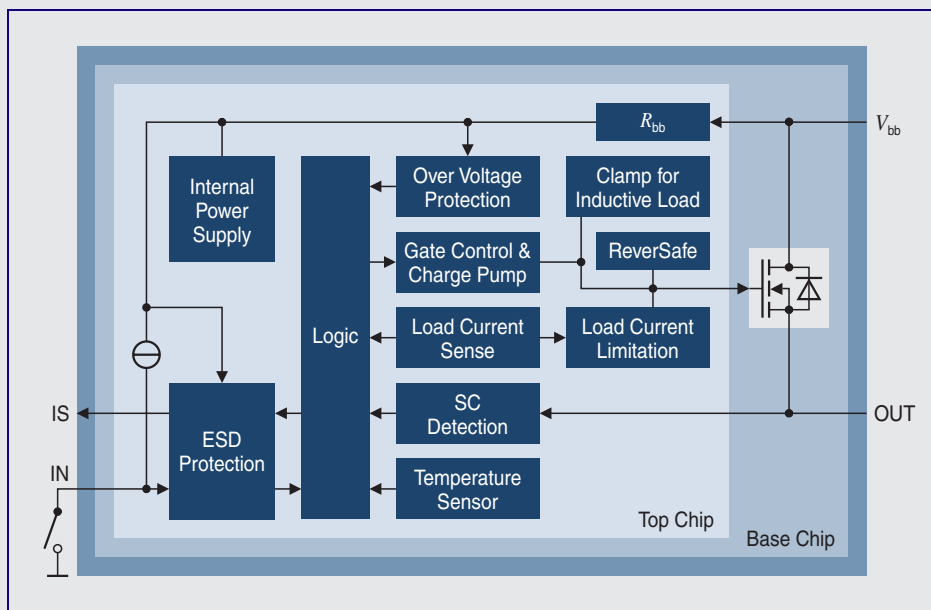
Applications

- High-side power switch with diagnostic feedback for 12 V and 24 V grounded loads
- All types of resistive, inductive and capacitive loads
- Replaces electromechanical relays, fuses and discrete circuits

Smart High-Side
Power Switch
One Channel 10 mΩ



Block Diagram

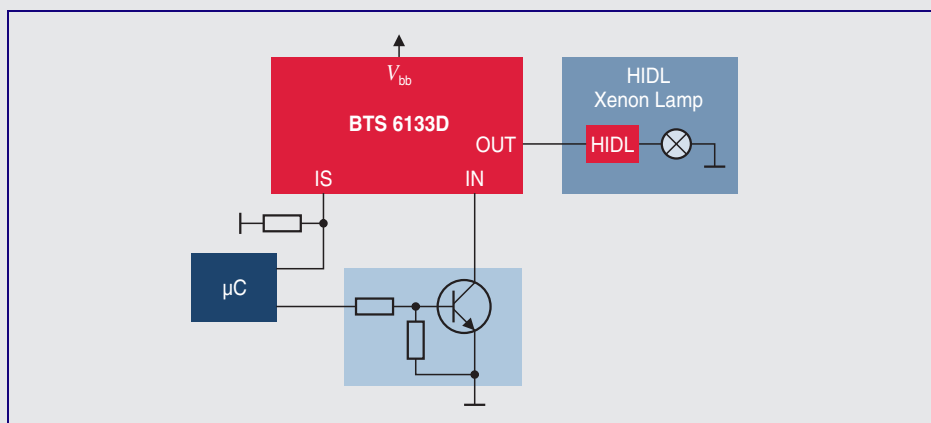


Product Summary

Type	Sales Code	Package
BTS 6133D	Q67060-S6072	P-TO252-5 (DPAK 5 pin)

Parameter	Symbol	Values
Operating Voltage	$V_{bb(ON)}$	5.5 ... 38 V
On-state Resistance	$R_{ON(max)}$	10 m Ω
Nominal Load Current	$I_{L(nom)}$	8 A
ISO Load Current	$I_{L(ISO)}$	33 A
Current Limitation	$I_{L12(SCr)}$	75 A

Application Example



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Published by
Infineon Technologies AG,
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 D-81669 München

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Template: pb_tmplt.fm/2/2003-05-01