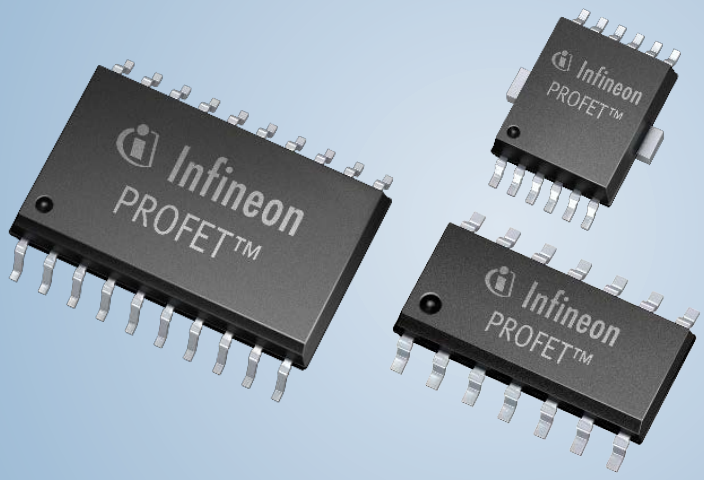


Product Brief

BTT6100-2EKA, BTT6200-1EJA BTT6200-4EMA (Truck Devices)

New Smart High-Side Switches for 24V Applications

Infineon's new high-ohmic 24V High-Side Switches of the PROFET™+ 24V family in PG-DSO-8 EP, PG-DSO-14 EP and PG-SSOP-24 EP packages provide embedded diagnostic and protective functions. The power transistor is built by a N-channel vertical power MOSFET with charge pump. The device are especially designed to drive lamps as well as LEDs in the harsh automotive environment.

The high current sense accuracy (k_{ILIS}) is able to diagnose even the smallest loads, such as LEDs. The high short-circuit robustness sets the market benchmark. Infineon is the first company to specify the short-circuit robustness of a device in the datasheet: Min. 100k SC cycles for family members of PROFET™+ 24V.

Applications

- 24V grounded high-side loads
- µC compatible with diagnostic feedback
- Suitable for automotive and industrial applications
- All types of resistive, inductive and capacitive loads
- Suitable for loads with low currents such as LEDs, 10W bulbs, relays
- Replaces electromechanical relays, fuses and discrete circuits

Diagnostic Functions

- Proportional load current sense
- Open load in ON and OFF
- Short circuit to battery and ground
- Overtemperature sense
- Current sense matching between channels
- Stable diagnostic signal during short circuit
- Enhanced k_{ILIS} accuracy with calibration

Basic Functions

- RoHS compliant & AEC qualified
- Op. voltage range (5.0V … 36.0V)
- Low stand-by current (< 0.5µA)
- ESD protection, optimized EMC
- PWM capability up to 500Hz
- Very low leakage current in OFF
- 3.3V and 5V-compatible logic inputs
- Improved heat dissipation of DSO-/SSOP package

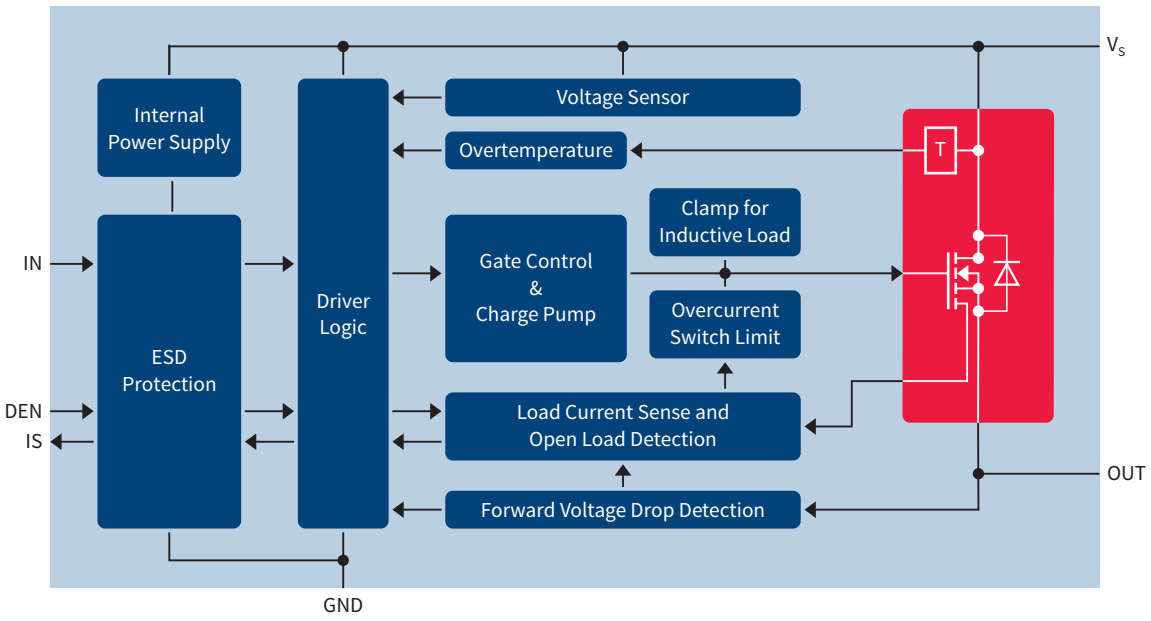
Protection Functions

- Load dump (min.): 65V
- Current limitation
- Thermal shutdown : Latch
- Enhanced short circuit operation
- Loss of ground/battery protection
- Stable behavior at under voltage
- Overvoltage protection
- Voltage dependent current limitation

RoHS AEC Qualified

BTT6100-2EKA, BTT6200-1EJA BTT6200-4EMA (Truck Devices)

Block Diagram (BTT6200-1EJA)



Product Summary

Parameter	Symbol	Value		
		BTT6200-4EMA	BTT6200-1EJA	BTT6100-2EKA
Target loads		10W bulbs, small LEDs	10W bulbs, small LEDs	21W bulbs
Operating voltage range	$V_{S(OP)}$	5V … 36V	5V … 36V	5V … 36V
Maximum supply voltage	$V_{S(LD)}$	65V	65V	65V
Maximum ON state resistance at T_j = 150°C per channel	$R_{DS(on)}$	400mΩ	400mΩ	200mΩ
Nominal load current (all channels active)	$I_{L(NOM)}$	1A	1.5A	2.2A
Typical current sense ratio	k_{ILIS}	300	300	600
Minimum current limitation	$I_{L5(SC)}$	9A	9A	20A
Maximum standby current with load at T_j = 25°C	$I_{S(OFF)}$	500nA	500nA	500nA

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