

The TLE 7201R is an Application Specific Standard Product (ASSP) for automotive door-module applications. It includes all the power stages necessary to drive the loads in a typical front door application, i.e. central lock, deadlock or mirror fold, mirror position, mirror defrost and up to four 5 W lamps, e.g. for turn signal, courtesy/warning or control panel illumination. It is designed as a monolithic circuit, using Infineon's mixed technology SPT which combines bipolar and CMOS control circuitry with DMOS power devices.

Short circuit and over-temperature protection and a detailed diagnosis are in line with the safety requirements of automotive applications. The current sense output allows to improve the total system performance. The standard SPI interface saves microcontroller I/O lines while still giving flexible control of the power stages and a detailed diagnosis.



TLE 7201R

Applications

- Automotive Front-Door Modules
- Automotive Body ECUs including door functionality

Features

- Full bridge (150 mΩ) for main doorlock motor
- Two half-bridges (400 mΩ) for deadbolt and mirror position motor or mirror fold motor
- Two half-bridges (800 mΩ) for mirror position
- High-side switch (100 mΩ) for mirror defrost
- Four high-side switches (500 mΩ) for 5 W lamps

- Analog current sense output and build-in multiplexer to reduce ADC-channels of the microcontroller
- All outputs with short circuit protection and diagnosis
- Over-temperature protection with warning
- Open load diagnosis for all outputs
- Charge-pump output for n-channel MOSFET for reverse-polarity protection
- Very low current consumption in sleep mode
- Standard 16-bit SPI for control and diagnosis
- Over- and Undervoltage Lockout

- Power-SO package with full-size heatslug for excellent thermal resistance
- Pinning optimized for efficient PCB layout

P-DSO-36-12



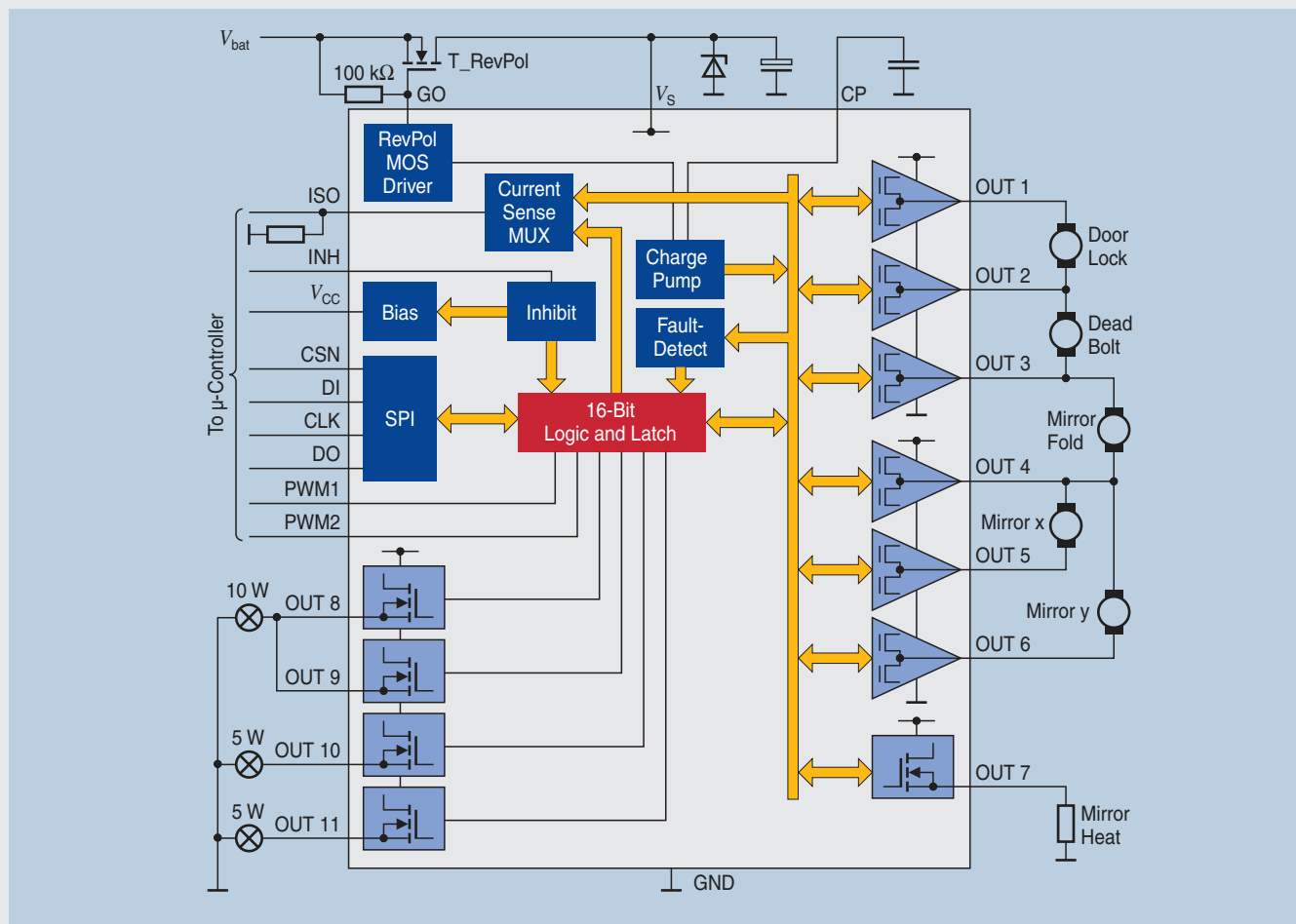
TLE 7201R

Power ASSP for
Automotive Door-Zone Modules



Never stop thinking.

Block Diagram



Besides the TLE 7201R, Infineon offers a broad range of products suitable for door-module application

Type	Description	Package
TLE 7201R	Power ASSP for lock, mirror and lamps	P-DSO-36-12
TLE 6266	Door-Module System ASSP with CAN, V-reg and relay-driver	P-DSO-28
TLE 6263	General purpose System Base Chip with CAN, V-reg and wake-inputs	P-DSO-28
BTS 7740G	H-bridge for door-lock	P-DSO-28
BTS 781GP	H-bridge for window-lift	P-TO263-15
TLE 6208-3G	Triple half-bridge for mirror position	P-DSO-14
BTS 5210G	2-Channel high-side switch for lamps, mirror heater	P-DSO-14
BTS 716G	4-Channel high-side switch for lamps, mirror heater	P-DSO-20
TLE 4240	LED-driver with current control and diagnosis	P-DSO-8
C164CM	16-bit microcontroller with 32 K ROM/OTP, CAN	P-TQFP-64
XC164CS	16-bit microcontroller with 64 - 128 K ROM/Flash, TwinCAN	P-TQFP-100
TLE 49x5G	Hall-switch for window-lift rotational indexing	SOT89

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