

Infineon Technologies New Products Introduction

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5th generation quasi-resonant PWM flyback controller with integrated MOSFET

Latest generation of quasi-resonant flyback controller and 700 V/ 800 V integrated MOSFET in both DIP and SMD package



In tandem with Infineon's leadership in the area of high voltage superjunction MOSFETs, the latest 700 V and 800 V CoolMOS™ P7 families will be integrated together with the 5th generation controller in a single package. CoolSET™ is available in both through-hole and SMD packages and thereby eliminates the need of heatsink and reduces BOM count with a small footprint.

Features

- > Cascode configuration
- > Adjustable line input over and under voltage protection
- > V_{CC} and current sense pin short to ground protection
- > Novel quasi-resonant switching scheme
- > Selectable active burst mode entry/exit profile
- > Protection mode implemented with auto-restart scheme

Target applications

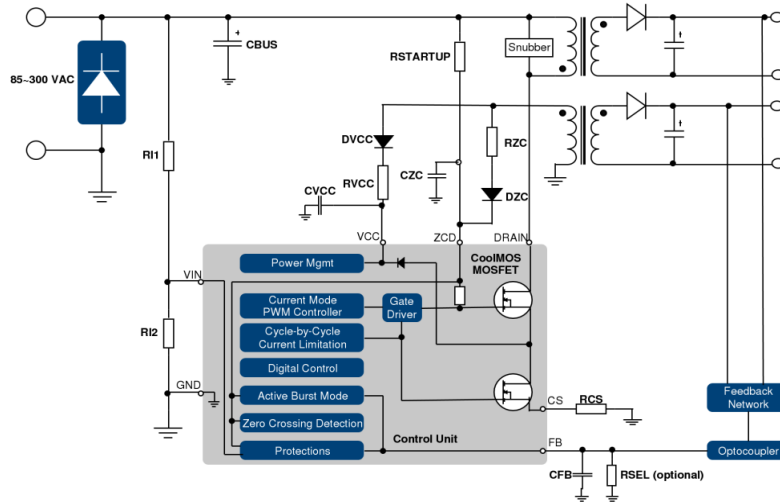
- > Auxiliary SMPS for major home appliances, industrial SMPS and server power
- > Main SMPS for set-top-box, water purifier and AC-DC adapter

Benefits

- > Fast start-up with cascode configuration
- > Robust SMPS with comprehensive input protection such as line over-voltage protection, brown out, V_{CC} and CS pin short to ground protection
- > Innovative novel quasi-resonant switching scheme for high efficiency and ease of EMI filter design
- > Dual active burst mode entry/exit profile to optimize light load efficiency for different design
- > Minimize interruption to operation with auto-restart scheme

Block diagram

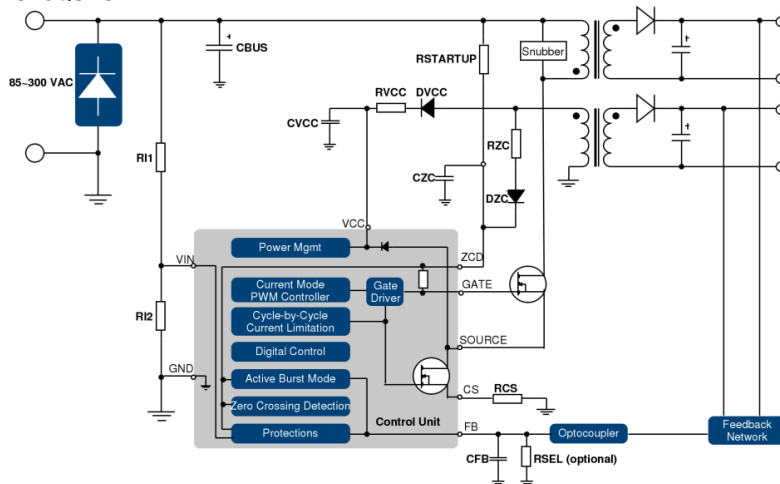
ICE5QRxxxxAx



Product collaterals / online support

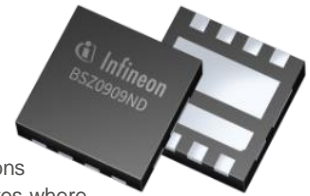
- > Product family [page](#)
- > Product landing pages *it will live from March 14th
 - ICE5QR2270AZ [page](#)
 - ICE5QSAG [page](#)
 - ICE5QR2280AZ [page](#)
 - ICE5QR4780AZ [page](#)
 - ICE5QR4770AZ [page](#)
 - ICE5QR0680AZ [page](#)

ICE5QSAG



BSZ0909ND half-bridge

Infineon optimized solution for wireless power, drives and wearables



The used OptiMOS™ technology combined with the PQFN 3x3 package offers an optimized solution for DC-DC applications with space critical requirements. The BSZ0909ND fits perfectly in wireless charging or drives (e.g. multicopter) architectures where designers target to simplify the layout and significantly save space without compromising on efficiency.

Features

- > Ultra-low Q_g
- > Half-bridge in a small 3.0x3.0 mm² package outline
- > Exposed pads
- > Logic level (4.5 V rated)
- > RoHS compliant 6/6 (full lead free)

Benefits

- > Low switching losses
- > High switching frequency operation
- > Lowest parasitics
- > Low operating temperature
- > Low gate drive losses
- > RoHS 6/6 lead free product

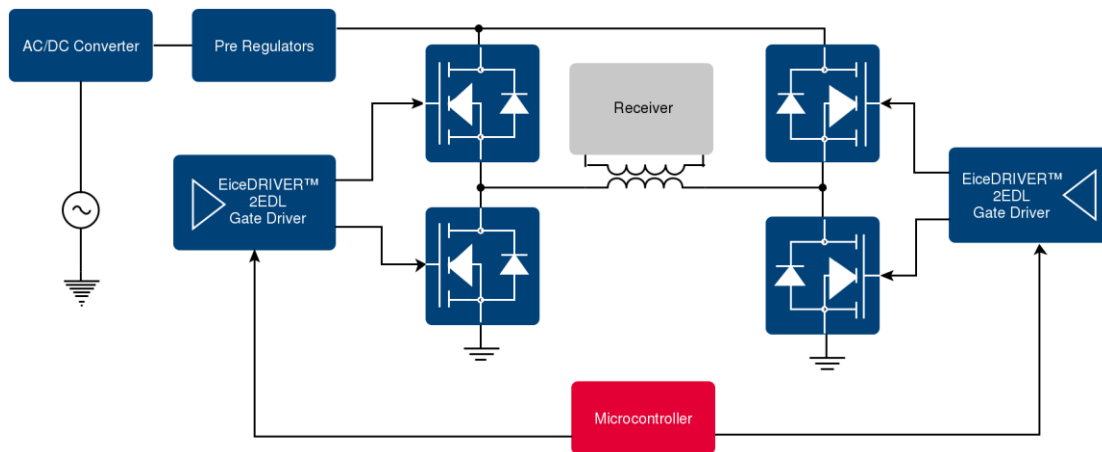
Target applications

- > Wireless charging
- > Drives (e.g. multicopter)

Product collaterals / online support

- > Product landing [page](#)
- > Product datasheet [page](#)

Block diagram



IR3883MTRPBF

800kHz 3A Integrated POL Voltage Regulator



The IR3883 IR MOSFET IPOL is an easy-to-use, fully integrated and highly efficient monolithic DC-DC regulator. The on-chip PWM controller and MOSFETs make IR3883 a space-efficient solution, providing accurate power delivery. The IR3883 employs an enhanced stability engine that makes it stable with ceramic capacitors without compensation.

Features and Benefits

- > Enhanced stability constant-on-time engine does not require compensation for easy design
- > Small 3x3 mm footprint for density
- > DCM mode for light-load efficiency
- > T compensated 3 settings current limit to minimize inductor size and cost

Target applications

- > Server and Computing
- > Storage Applications
- > Communications Infrastructure
- > General DC-DC Converters
- > Distributed Point of Load Power Architectures

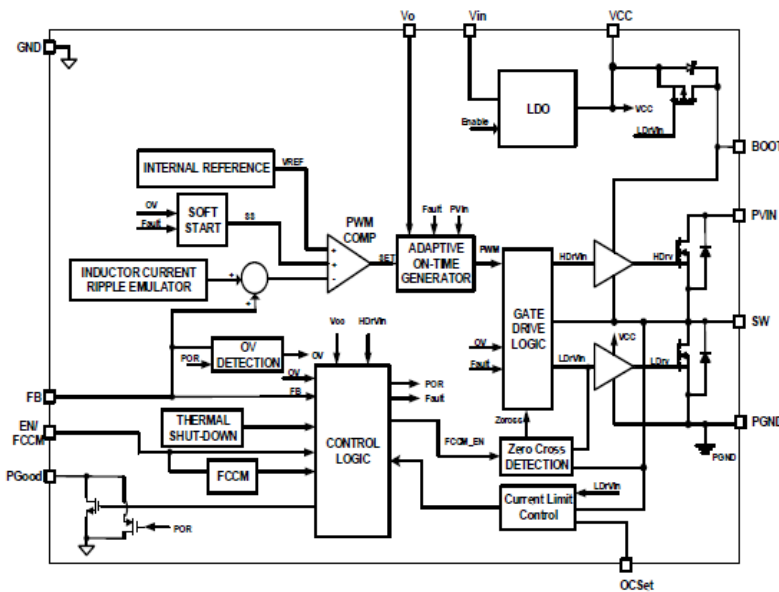
Application examples

- > Auxiliary & stand-by rails and 5 V, 3.3 V, 1.8 V, 1.2 V, 1 V suppliers for netcom, telecom, server and storage application

Benefits

- > Wide input voltage range (2.5V-14V) with an external Vcc
- > Single input voltage range (4.5V to 14V)
- > Continuous 3A load capability
- > 800kHz switching frequency
- > 10uA supply current at shutdown
- > Enhanced stability engine with ceramic capacitors and no external compensation
- > Enhanced light load efficiency with reduced switching frequency and diode emulation
- > Forced continuous conduction mode option
- > Thermally compensated peak over-current protection with three selectable levels
- > Internal soft-start
- > Enable input
- > Pre-bias start up
- > Thermal shut down
- > Power good output
- > Precision reference voltage (0.5V+/-0.6%)
- > Small size 3mmx3mm QFN
- > Lead-free, halogen-free and RoHS6 compliant

Block diagram



Product collaterals / online support

- > Product landing [page](#)
- > Product family [page](#)
- > Product datasheet [page](#)
- > Automotive Power Supply IC's (linear) video [here](#)

TLS115xx Sensor Supply IC family

A monolithic integrated low-dropout voltage tracking regulator



Robust and high accuracy power supply IC dedicated to supply automotive sensors. The TLS115xx is a monolithic integrated low-dropout voltage tracking regulator with high accuracy in small DSO-8 exposed pad and TSON-10 packages. The IC is designed to supply off-board systems, for example sensors in powertrain management systems under the severe conditions of automotive applications.

Features

- > Designed to supply off-board sensors automotive at 150°C
- > Various protection features : short to GND and Vbatt protected, current limitation , reverse polarity protection
- > High accuracy tracking
- > Overvoltage and undervoltage monitor

Benefits

- > Reliable protection for ECU/sensor
- > Easy and accurate voltage replication
- > High flexibility/scalability
- > Lower design effort → design cost saving

Target applications

- > Automotive sensor supply
- > Protected sensor supply for off-board sensors
- > Electrical Power Steering (EPS)
- > Transmission, Stability Control ECU's
- > Secondary Supply for μ Controller

Product collaterals / online support

- > Product family [page](#)
- > Product landing pages
[TLS115B0EJ](#)
[TLS115D0EJ](#)
[TLS115B0LD](#)
[TLS115D0LD](#)
- > Sensor supply IC's eLearning [here](#)

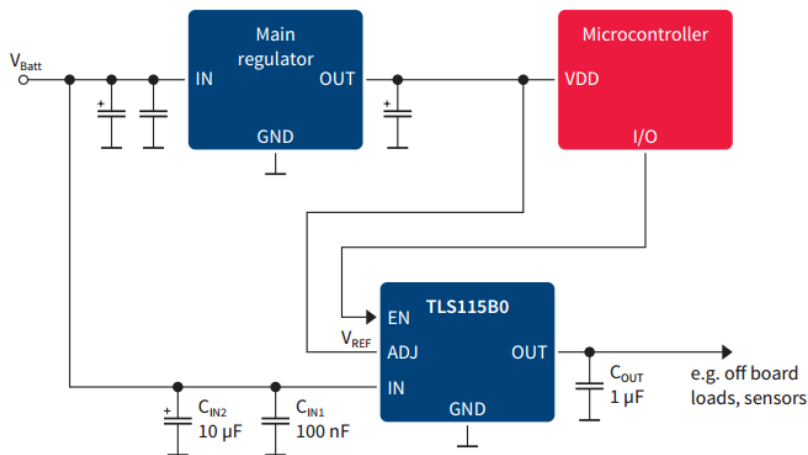
Application examples

- > Generic Sensor Supply Application Example

Completing products (P2S)

- > Pressure sensors KPxxx

Block diagram



New high performance voltage regulators

TLS805, TLS810, TLS820 and TLS850



The new high performance voltage regulator family offers a full range of ultra-low current consumption automotive linear voltage regulators with low dropout voltage and wide input voltage range. The automotive high performance LDOs TLS805/TLS810/TLS820/TLF80511/TLS850 have the capability to extend battery life, save PCB space and system costs. With output currents ranging from 50mA to 500mA and various features (EN, RESET, Watchdog) to choose from Infineon's high performance LDO family has the right fit for any body/infotainment application.

The 50mA and 100mA products are available in DSO8-EP and TSON-10 package. The TSON10 package with a 3.3mmx3.3mm footprint is ~50% smaller than a DSO-8 package and allows for Automated Optical Inspection (AOI) eliminating the need for X-Ray inspection. The 200mA products are available in the SSOP-14 package and the 400mA and 500mA products in Dpak and D2pak

Features

- > Extended input range
- > Ultra-low quiescent current
- > Excellent line transient

Target applications

- > Applications with direct battery connection
- > Automotive general ECUs
- > Infotainment, alarm, dashboard
- > RKE, immobilizer, gateway

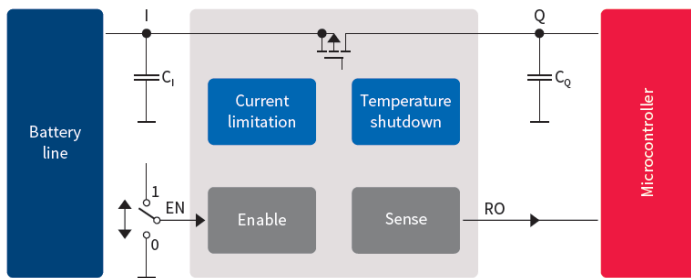
Benefits

- > Functional input voltage range starts at 3V and very low dropout voltage → suitable for cranking
- > Ultra-low quiescent current and current consumption → power saving for battery
- > Stable with 1 μF output capacitor → PCB space and cost savings
- > Excellent transient robustness → smaller input capacitors hence lower input filtering costs all with better performance

Completing products (P2S)

- > CAN Transceiver Supply
- > Microcontrollers Supply for currents up to 500mA

Application diagram



Product collaterals / online support

- > Product family [page](#)
- > Product landing and datasheet pages
 - TLS805
 - [TLS805B1LD V33](#)
 - TLS810
 - [TLS810A1LD V33](#), [TLS810D1EJ V33](#), [TLS810B1EJ V50](#), [TLS810B1EJ V33](#), [TLS810D1LD V33](#)
 - TLS820
 - [TLS820F1EL V50](#), [TLS820D0EL V50](#), [TLS820D0EL V33](#)
 - TLS850
 - [TLS850D0TE V33](#), [TLS850D0TE V50](#), [TLS850D0TA V33](#), [TLS850F1TA V50](#), [TLS850F0TA V33](#), [TLS850D0TA V50](#)
- > High Performance Voltage Regulator IC [here](#)

Evaluation Boards

Overview of all [Infineon high performance voltage regulators demo boards](#)

