



Product brief

XDPL8218

High power factor constant voltage flyback IC with secondary-side regulation

The XDPL8218 is a digital, highly integrated, future-proof device, which combines a constant voltage quasi-resonant (QR) flyback controller with algorithms for high power factor and low THD. The multi-mode operation with quasi resonant operation, discontinuous conduction mode at medium power, and active burst mode at low power ensure efficiency over full output power range. The XDPL8218 manages wide load ranges and reacts fast and stable to dynamic load changes. The main application field for this device are dual stage designs with a DC-DC stage at secondary side and the XDPL8218 as primary side.

Key advantages of designing with the XDPL8218 high power factor constant voltage flyback IC

Product performance enabling more efficient designs and end-product differentiation

The XDPL8218 demonstrates stable operation and excellent power quality over a wide power range from 100% to 1% of nominal power. The device features isolated auxiliary supply and enables powering of external devices.

High robustness versus interferences for reliable functioning of the driver

The XDPL8218 includes embedded digital filters which reduce noise, as well as programmable blanking times for signal measurements. User-defined parameters determine brown-out and brown-in reaction for input protection.

High reliability supporting long lifetime of the driver

The XDPL8218 allows smooth thermal management due to an adaptive temperature guard. Comprehensive and configurable protections ensure the increased product quality and extensive set of features for a safe and robust functioning of the XDPL8218.

Fast design cycle reducing time-to-market and efforts for value products

The device's digital parameter configuration allows real-time design changes. This, coupled with easy-to-use development tools, shortens the product development time and reduces time-to-market.

Supply chain efficiency optimizing stock keeping and enabling high flexibility

The XDPL8218 enables customizable LED driver designs and simplifies the generation and maintenance of multiple variants without increasing the number of stock keeping units. One device is used for multiple board variants.

Key features

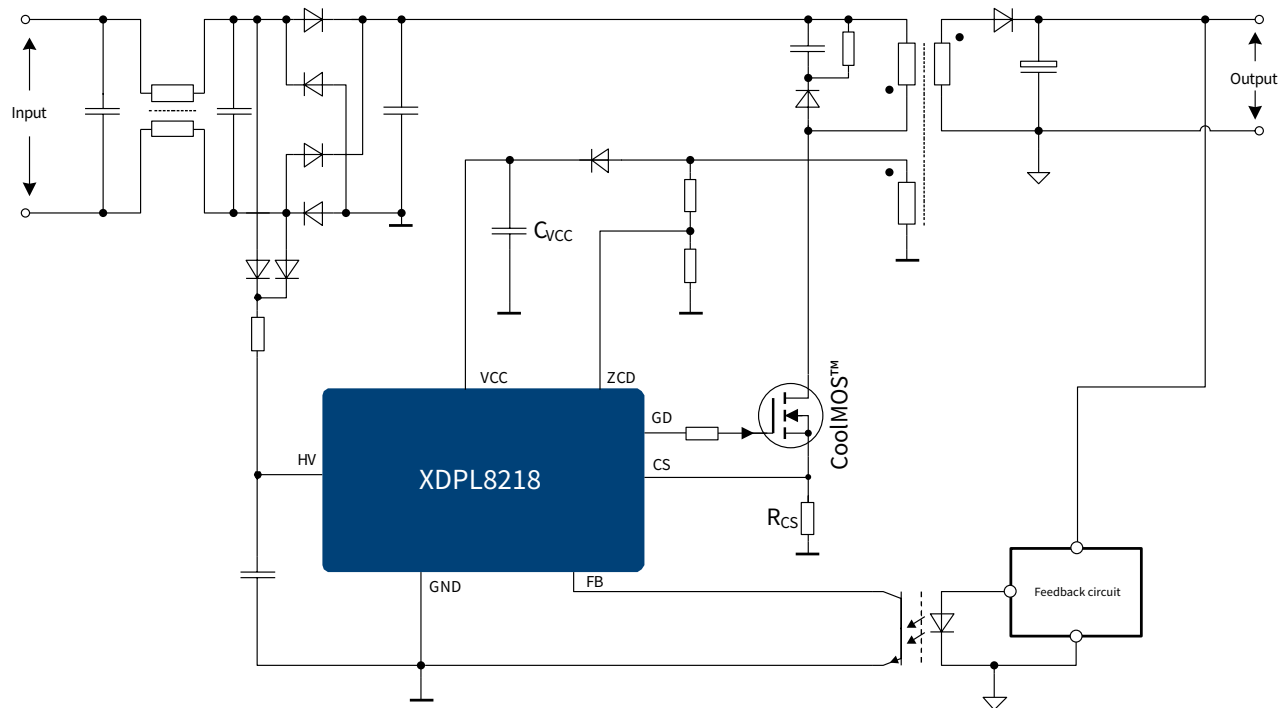
- > Nominal AC input voltage range (100 - 277 V_{AC}) or DC input voltage range (127 - 430 V_{DC})
- > Power factor > 0.9 and THD < 15%
- > Standby power < 100 mW
- > Three operation modes: quasi-resonant (QRM), discontinuous conduction (DCM), and active burst (ABM)
- > Digital control for automatic selection of the optimal operation mode depending on the design requirements
- > Monitoring and protection of all relevant error conditions for safe operation:
 - Under-voltage
 - Over-voltage
 - Open load
 - Output shorted
- > Available in DSO-8 package



XDPL8218

High power factor constant voltage flyback IC with secondary-side regulation

Typical application schematic



Design support for applications using Infineon's XDPL8218

Infineon's XDPL8218 reference design demonstrates the performance of the XDPL8218 in a typical application. The evaluation environment comes equipped with the .dp Vision parameter tool and the .dp Interface Gen2, enabling connection to customer-specific designs based on the XDPL8218.

XDPL8218 40 W reference design



Product portfolio

Type	Description	Ordering code
XDPL8218	Digital flyback constant voltage output controller IC	SP001707258
REF-XDPL8218-U40W	40 W reference board with replaceable feedback circuit	SP001710980

Published by
Infineon Technologies Austria AG
9500 Villach, Austria

© 2018 Infineon Technologies AG.
All Rights Reserved.

Please note!

THIS DOCUMENT IS FOR INFORMATION PURPOSES ONLY AND ANY INFORMATION GIVEN HEREIN SHALL IN NO EVENT BE REGARDED AS A WARRANTY, GUARANTEE OR DESCRIPTION OF ANY FUNCTIONALITY, CONDITIONS AND/OR QUALITY OF OUR PRODUCTS OR ANY SUITABILITY FOR A PARTICULAR PURPOSE. WITH REGARD TO THE TECHNICAL SPECIFICATIONS OF OUR PRODUCTS, WE KINDLY ASK YOU TO REFER TO THE RELEVANT PRODUCT DATA SHEETS PROVIDED BY US. OUR CUSTOMERS AND THEIR TECHNICAL DEPARTMENTS ARE REQUIRED TO EVALUATE THE SUITABILITY OF OUR PRODUCTS FOR THE INTENDED APPLICATION.

WE RESERVE THE RIGHT TO CHANGE THIS DOCUMENT AND/OR THE INFORMATION GIVEN HEREIN AT ANY TIME.

Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.