



Product brief

XDP™ digital power XDP21071

Multi-mode, digital and configurable flyback controller

The XDP™ digital power XDP21071 is the first flyback controller in the industry with zero voltage switching (ZVS) on the primary side to achieve high efficiency with simplified circuitry and economical switches resulting in lower BOM cost.

High system efficiency with patented forced-frequency-resonant switching operation

By negative magnetization, the patented forced-frequency-resonant (FFR) switching scheme reduces the losses associated with today's valley-switching type of controllers without sacrificing the design simplicity of fixed-frequency switching schemes.

Ease of design and system optimization with intelligent, self-adaptive multi-mode operation

To further optimize SMPS under varying load and line input conditions, the XDP21071 comes with an intelligent, self-adaptive digital algorithm. This results in matching each line/load condition with the best-fit operational mode (e.g., burst mode, CrCM, FFR) to yield an unparalleled performance in its class. With its configurable parameters, the XDP21071 serves as a scalable platform over a range of power classes - swiftly, simply and precisely.

Increase system robustness with an adaptive overcurrent protection (OCP) profile

In applications where the output voltage changes according to requirements (e.g., fast charging and USB power delivery), the maximum allowable output current will be adjusted using a configurable threshold according to different output voltage settings to meet the limited power supply (LPS) requirement.

Key features

- › Forced-frequency-resonant mode
- › Self-adaptive, multi-mode operation
- › Supporting fast-charging applications with variable output voltage
- › Fixed-frequency switching up to 140 kHz
- › Adaptive overcurrent protection for limited power supply
- › Frequency clamp at high-line input with low-output voltage
- › UART port for configuring digital parameters
- › DSO-12 SMD package

Key benefits

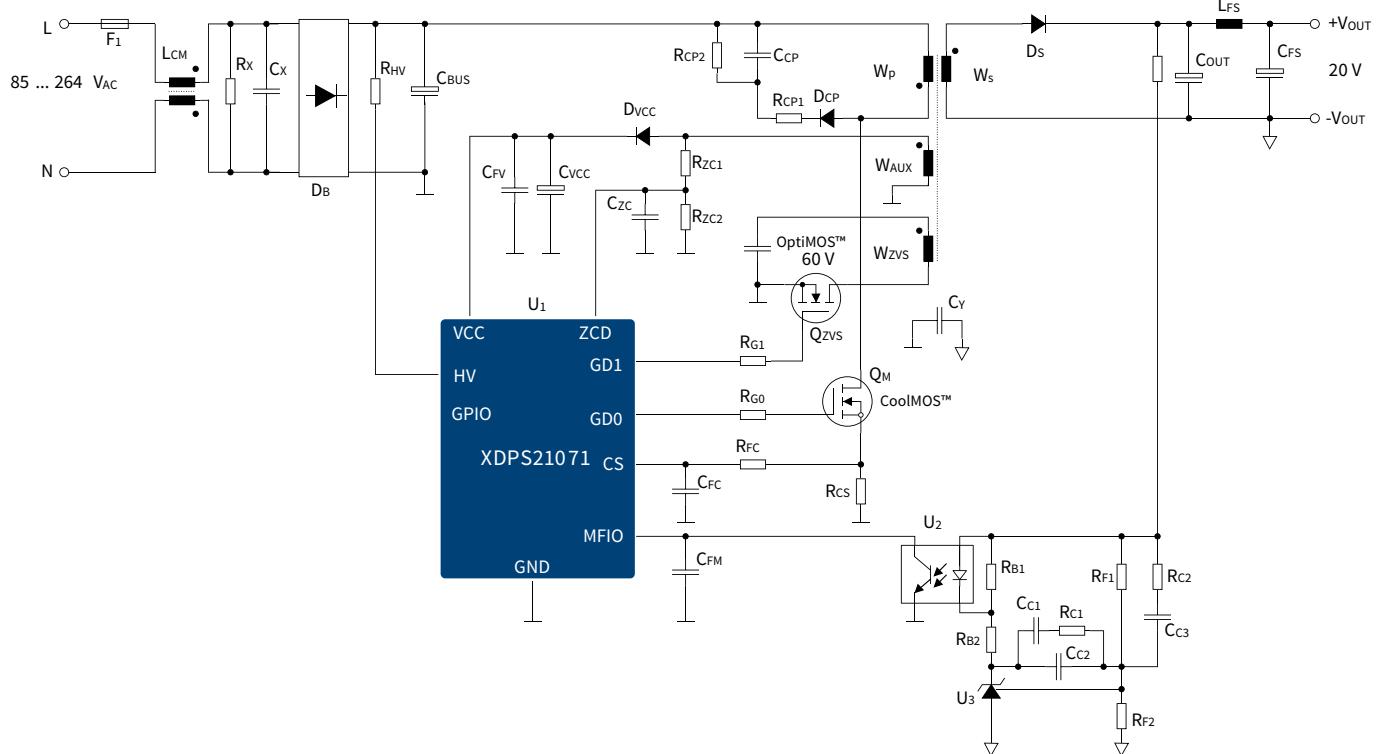
- › High power density design with FFR and 140 kHz switching frequency
- › Support LPS protection to meet safety regulatory requirements
- › Light-load efficiency optimized for variable output application
- › Fast and precise system tuning with configurable digital parameters
- › Lead-free, RoHS compliant



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Typical application schematic



Product information

| Product | Description | Orderable part number (OPN) | Package |
|-----------|----------------------------|-----------------------------|---------|
| XDPS21071 | FFR flyback PWM controller | XDPS21071XUMA1 | DSO-12 |

Design and support tools

| Type | Description | Ordering code | Additional information |
|--------------------|--|-----------------------|--|
| REF_XDPS21071_45W1 | 45 W USB-PD 3.0 type C charger | REFXDPS2107145W1TOB01 | www.infineon.com/dpVision |
| IF-BOARD.DP-GEN2 | Gen2 .dp interface board | IFBOARDDPGEN2TOB01 | |
| GUI .dp Vision | Graphical user interface software to configure parameters via a PC | Free download | |

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