Infineon's system solution for embedded systems

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Infineon's solutions for embedded systems

Modern objects in our daily lives, such as coffee machines, dishwashers and automatic opening systems, need embedded intelligence and power. Designing such devices requires an efficient and easy to implement power supply and a cost effective, versatile and scalable microcontroller platform. With Infineon's solutions you can realize the functions which distinguish your product.

In particular, for designs that need very high efficiency Infineon also delivers complete solutions that include secondary side synchronous rectification. This improves efficiency compared to traditional diode-based rectification.

Based on your power and efficiency needs, you can find an optimal ready-to-use solution at Infineon ranging from lowest cost to highest efficiency to highest integration in the given power class.

Full system solution

Infineon is the right partner to make sure you can implement the functions which distinguish your embedded system/product without worrying about designing a complex power supply and/or microcontroller subsystem.

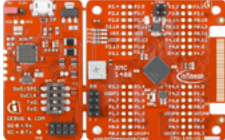› Easy-to-use **reference solutions and/or building blocks such as power supply, power switches and microcontroller** that dramatically cut your time-to-market
› DAVE™ 4 – free of charge Eclipse-based integrated development environment (IDE) providing extensive, configurable, and reusable code repository for XMC™ MCUs, supporting the whole development process from evaluation to production

Selection of available evaluation boards for embedded systems

12 W SMPS 800 V fixed frequency CoolSET™ ICE3AR4780VJZ	20 W 5 V SMPS off-line flyback converter CoolSET™ ICE3AR2280VJZ	40 W SMPS 800 V quasi-resonant CoolSET™ ICE32QR0680Z	60 W SMPS fixed frequency flyback controller ICE3BS03LJG	65 W fixed frequency flyback controller ICE3AS03LJG
EVAL-3AR4780VJZ	EVAL-3AR2280VJZ	EVALQRC-ICE2QR0680Z	EVALSF3-ICE3BS03LJG	EVALSF3-ICE3AS03LJG
XMC1300 Boot Kit	XMC1400 Boot Kit	XMC1000 Motor Control Application kit	750 W Motor Control Application kit	XMC4400 Motor Control Application kit
KIT_XMC13_BOOT_001	KIT_XMC14_BOOT_001	KIT_XMC1X_AK_MOTOR_001	KIT_XMC750WATT_MC_AK_V1	KIT_XMC44_AE3_001

Benefits

› Very easy to implement
› Fast time-to-market
› Very flexible solutions from low-cost to highest efficiency
› Solutions designed to fit well into most systems

Home Appliance · Induction · Washing Machine · Dishwasher · Automatic opening system · Fridge · Vacuum cleaner · Vending Machine

Reliable and durable solutions for embedded systems

Flight control	Primary side high voltage MOSFETs	Integrated control and MOSFETs
Quasi-resonant PWM controller › ICE2QS03G **Fixed frequency PWM controller** › ICE3AS03LJG › ICE3BS03LJG	**700 V CoolMOS™ CE** › IPS70R600CE › IPS70R950CE › IPS70R1K4CE › IPS70R2K0CE **800 V CoolMOS™ CE** › IPU80R2K8CE › IPD80R2K8CE › IPD80R1K4CE › IPD80R1K0CE	**800 V quasi-resonant CoolSET™** › ICE2QR4780Z › ICE2QR2280Z › ICE2QR0680Z **800 V fixed frequency CoolSET™** › ICE3AR4780VJZ › ICE3AR2280VJZ › ICE3AR1580VJZ › ICE3AR1080VJZ › ICE3AR0680VJZ

Secondary side synchronuous rectification ICs	Secondary side synchronuous rectification MOSFETs	Microcontroller
› Once cycle control PFC IC: IR1153STRPBF › Adj. frequency once cycle control PFC: IR1155STRPBF › Boost PFC and SMPS control IC: IRS2505LTRPBF › 200 V secondary side SR controller: IR1161LTRPBF, IR11662STRPBF › 200 V dual SR controller IC: IR11688STRPBF › Advanced smart rectifier control IC: IR11672ASTRPBF	› 60 V and 100 V OptiMOS™ 3 Logic Level › 100 V OptiMOS™ 3 › 40 V to 100 V OptiMOS™ 5 › 40 V to 100 V StrongIRFET™	**XMC1000 microcontroller** › XMC1100T016X0064AB › XMC1201T038F0200AB › XMC1302Q040X0200AB › XMC1402F064X0200AA

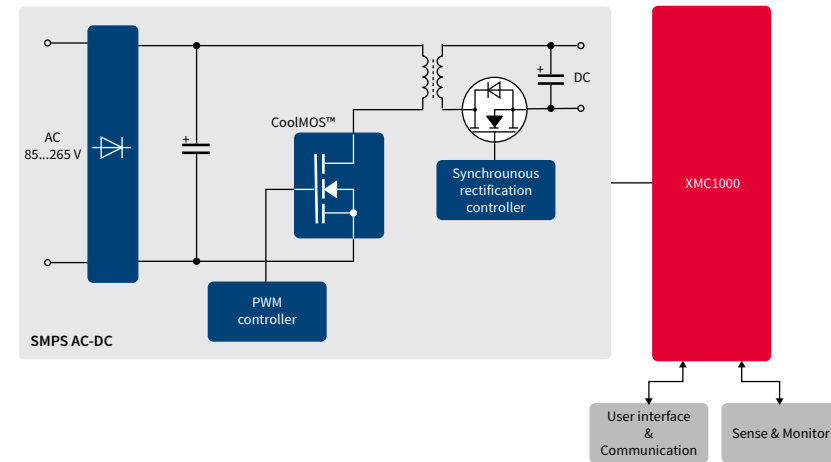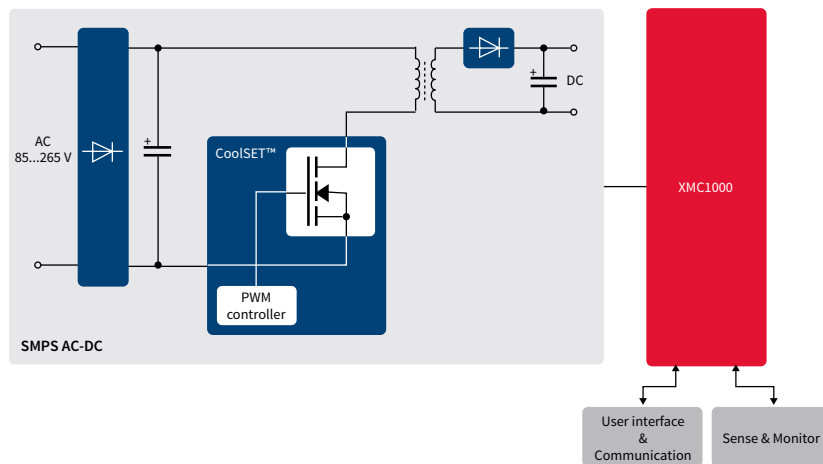| CoolSET™ reference boards	PWM IC reference boards	XMC™ microcontroller reference boards
› EVALQRC-ICE2QR0680Z › EVALQRC-ICE2QR4780Z › EVALQRC-ICE2QR2280Z › EVAL-ICE3AR1080VJZ › EVAL-ICE3AR1580VJZ › EVAL-3AR4780VJZ › EVAL-3AR0680VJZ › EVAL-3AR2280VJZ	› EVALQRS-ICE2QS03G › EVALSF3-ICE3BS03LJG › EVALSF3-ICE3AS03LJG	› KIT_XMC13_BOOT_001 › KIT_XMC14_BOOT_001 › KIT_XMC1X_AK_MOTOR_001 › KIT_XMC750WATT_MC_AK_V1 › KIT_XMC44_AE3_001

Possible implementations for embedded systems
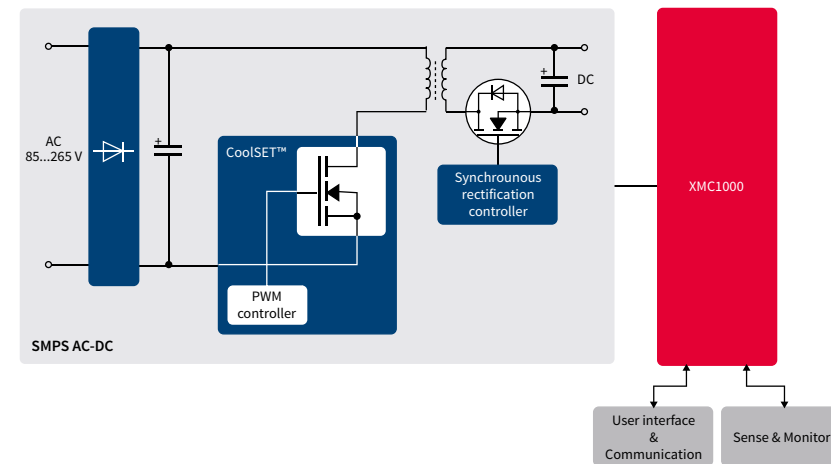
High flexibility and cost competitive

AC 85...265 V

CoolMOS™

PWM controller

DC

XMC1000

SMPS AC-DC

User interface & Communication

Sense & Monitor
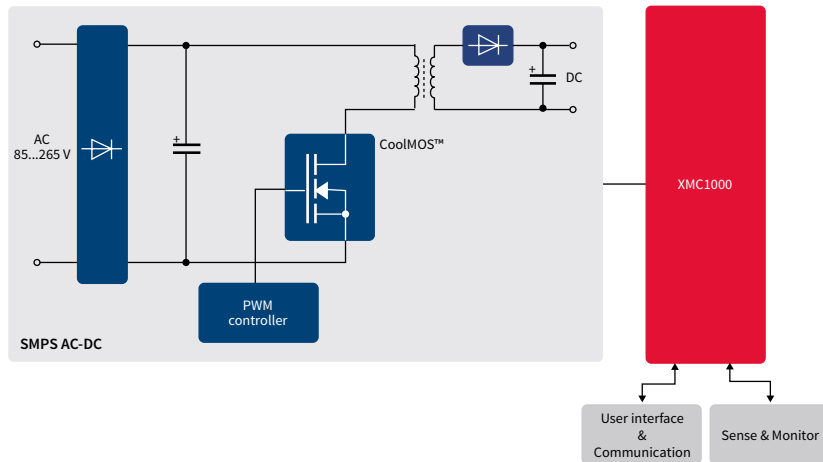
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