

12 A / 8 A / 15 A Core Supply Regulator with AVP and Watchdog

PF53

Last Updated: Mar 25, 2024

The PF5300/PF5301/PF5302 integrate high-performance 12 A / 8 A / 15 A single buck converter respectively to power high-end processors. With adaptive voltage positioning and a high-bandwidth loop, it offers excellent transient response with reduced capacitance requirement.

PF53 has been developed in compliance with ISO 26262 Automotive Safety Specification and is configurable with safety levels up to ASIL D and qualified according to AEC-Q100 requirements. This device is characterized across -40 °C to 125 °C ambient temperature range, making it a good option for the automotive and industrial markets.

This device is co-architected with VR5510 PMIC providing a complete system power solution for the S32G3 processor.

The PF53 is also part of the BYLink system power platform enabling new smart approach to design multiple and scalable power management behaving like one.

PF53 devices are suitable for a variety of applications either as a standalone power solution or working in conjunction with other NXP PMICs to provide a complete system solution for todays advanced applications.

PF53 Block Diagram

PF5300 – 12 A Integrated FET Core Supply with AVP (QM to ASIL D) PF5301 – 8 A Integrated FET Core Supply with AVP (QM to ASIL D) PF5302 – 15 A Integrated FET Core Supply with AVP (QM to ASIL D)		
Input Voltage: 2.7 V to 5.5 V Output Voltage: 0.5 V to 1.2 V Low Rdson High and Low Side MOSFETs +/- 1% DC Accuracy High-bandwidth loop with AVP		
Watchdog Timer		
OTP Memory	Temperature Protection	Current Limit Prptection
Analog Built-In Self Test (ABIST)	Programmable OV/UV Monitoring	Clock Synchronization Apread Spectrum

View additional information for 12 A / 8 A / 15 A Core Supply Regulator with AVP and Watchdog.

Note: The information on this document is subject to change without notice.

www.nxp.comNXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2024 NXP B.V.