POWER MANAGEMENT INTEGRATED CIRCUITS (PMICS)

NXP PMICs are highly integrated, high-performance power management solutions for automotive, consumer and industrial markets.

OVERVIEW

Designed to offer exceptional integration for a wide range of devices. They combine:

- Power management
- System control and Interfaces
- Battery management
- Scalable functional safety
- System-specific functions
- Advanced configurability

Our PMICs provide scalable, robust and proven platform solutions for our i.MX applications processors, networking and other processors.

Using high-performance process technologies, our PMICs offer high-efficiency solutions designed to extend battery life, reduce power dissipation and minimize EMC.

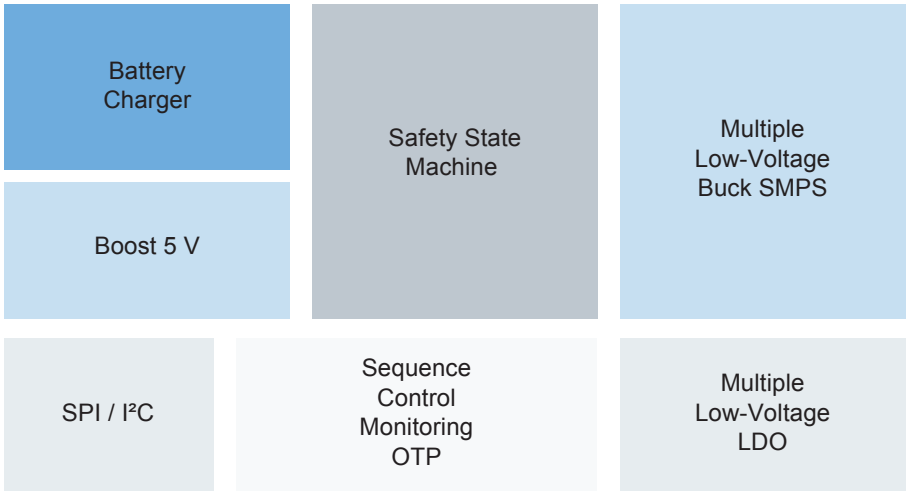
These PMICs bring an advanced level of configurability and programmability at the system level.

A single device can be easily configured to power a wide range of processors or FPGAs. One-time programmable (OTP) memory stores configuration without the need for external memory.

KEY FEATURES

- Switching and linear regulators
- Battery management functions
- Optimized power modes management
- OTP memory for flexible configurability
- System interface and control for advanced scalability
- One-stop customer service and support as part of reference design platforms
- Auto-sync signaling enables all devices to be synchronized and act as one single PMIC
- Advanced functional safety architecture

TYPICAL PMIC BLOCK DIAGRAM



NXP CONFIGURABLE ATTACH POWER MANAGEMENT IC PORTFOLIO

PMIC	Operating Voltage (V)	Buck / Boost	LDO	Ambient Temp Range (°C)	ASIL	Special Features	Package	Associated NXP Processor	Enablement	Other Processors
PCA9420	2.5-5.5	2	2	-40 to +85		Low power with ship mode Linear battery charger integrated	HVQFN24 or WLCSP25	i.MX RT600 i.MX RT500	BSP available	
PCA9450	2.7-5.5	6	5	-40 to +105			HVQFN56	i.MX 8M Mini I.MX 8M Nano I.MX 8M Plus	Patch available BSP available Under development	
PF0100	2.8–4.5	7	6	-40 to +105 -40 to +85	QM	Coincell charger	HVQFN56	i.MX 6S/D/Q/QP/SL/SX	BSP available	
PF0200	2.8–4.5	5	6	-40 to +105 -40 to +85	QM	Coincell charger	HVQFN56	i.MX 6SL/SX	BSP available	
PF1510	2.5–6.0	3	3	-40 to +105 -40 to +85	QM	Very low power Coincell charger	HVQFN40	i.MX 7ULP, 6UL, 6ULL, 6ULZ	BSP available	
PF1550	2.5–6.0	3	3	-40 to +105 -40 to +85	QM	Linear battery and coincell charger, very low power	HVQFN40	i.MX 7ULP, 6UL, 6ULL	BSP available	
PF3000	2.8–5.5	5	6	-40 to +105 -40 to +85	QM	Coincell charger	HVQFN48	i.MX 7S/D i.MX 6UL	BSP available	
PF3001	2.8–5.5	3	6	-40 to +105 -40 to +85	QM	Coincell charger	HVQFN48	i.MX 6UL		
PF4210	2.8–4.5	7	6	-40 to +105 -40 to +85	QM	Coincell charger	HVQFN56	i.MX 8MQ, 8MD	BSP available	
PF5200	2.7-5.5	2	0	-40 to +125	ASIL B/ QM	Watchdog, multiphase	FC-QFN32	S32R45, LX2160		EyeQ4, FPGA, Renesas R-Car M3, H3
PF7100	2.7-5.5	5	2	-40 to +125 -40 to +105	ASIL B/ QM	Watchdog, AMUX, multiphase	HVQFN48	i.MX 8X/XL	BSP available	
PF8100	2.7–5.5	7	4	-40 to +85 -40 to +105	QM	Watchdog, AMUX, multiphase	HVQFN56	i.MX 8, i.MX 8X, S32V LS1043/LS1046/LA1575/ LA9358/LX2160	BSP available	FPGA, Renesas R-Car M3, H3
PF8101	2.7–5.5	5	3	-40 to +105	QM	Watchdog, AMUX, multiphase	HVQFN56	i.MX 8, i.MX 8X	BSP available	
PF8200	2.7–5.5	7	4	-40 to +105	ASIL B	Watchdog, AMUX, multiphase	HVQFN56	i.MX 8, i.MX 8X, S32V LS1043/LS1046/LA1575/ LA9358/LX2160	BSP available	FPGA, Renesas R-Car M3, H3
PF8201	2.7–5.5	5	3	-40 to +105	ASIL B	Watchdog, AMUX, multiphase	HVQFN56	i.MX 8, i.MX 8X	BSP available	
PF8121	2.7–5.5	7	4	-40 to +85	QM	Watchdog, AMUX, multiphase	HVQFN56	i.MX 8M Mini	BSP available	
VR5000	2.8–4.5	4	5	-40 to +105	QM		HVQFN56	LS1020/21/23/24/26/28/43/46,T1013/23	BSP available	
VR5100	2.8–5.5	4	6	-40 to +105	QM		HVQFN48	LS1012	BSP available	

NXP CONFIGURABLE COMPANION POWER MANAGEMENT IC PORTFOLIO

PF502x PMICs are a series of software and pin-to-pin compatible multi-phase highly configurable devices. That, along with QM to ASIL B functional safety scalability, makes them suitable companions and fit for various system-level power requirements. This product family was designed to be used for autonomous, connectivity, automotive and industrial applications.

PMIC	Operating Voltage (V)	Buck / Boost	LDO	Ambient Temp Range (°C)	ASIL	Special Features	Package	Associated NXP Processor	Other Processors
PF5020	2.7–5.5	3	1	-40 to +125	ASIL B/ QM	Watchdog, AMUX, multiphase	QFN48	i.MX 8	FPGA, Renesas R-Car M3, H3
PF5023	2.7–5.5	3		-40 to +125	ASIL B/ QM	Watchdog, AMUX, multiphase	QFN48	i.MX 8	FPGA, Renesas R-Car M3, H3
PF5024	2.7–5.5	4		-40 to +125	ASIL B/ QM	Watchdog, AMUX, multiphase	QFN48	i.MX 8	FPGA, Renesas R-Car M3, H3

PMIC COMMUNITY

The PMIC community is a dedicated community with experts available to answer your questions.

https://community.nxp.com/community/Power-Management

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