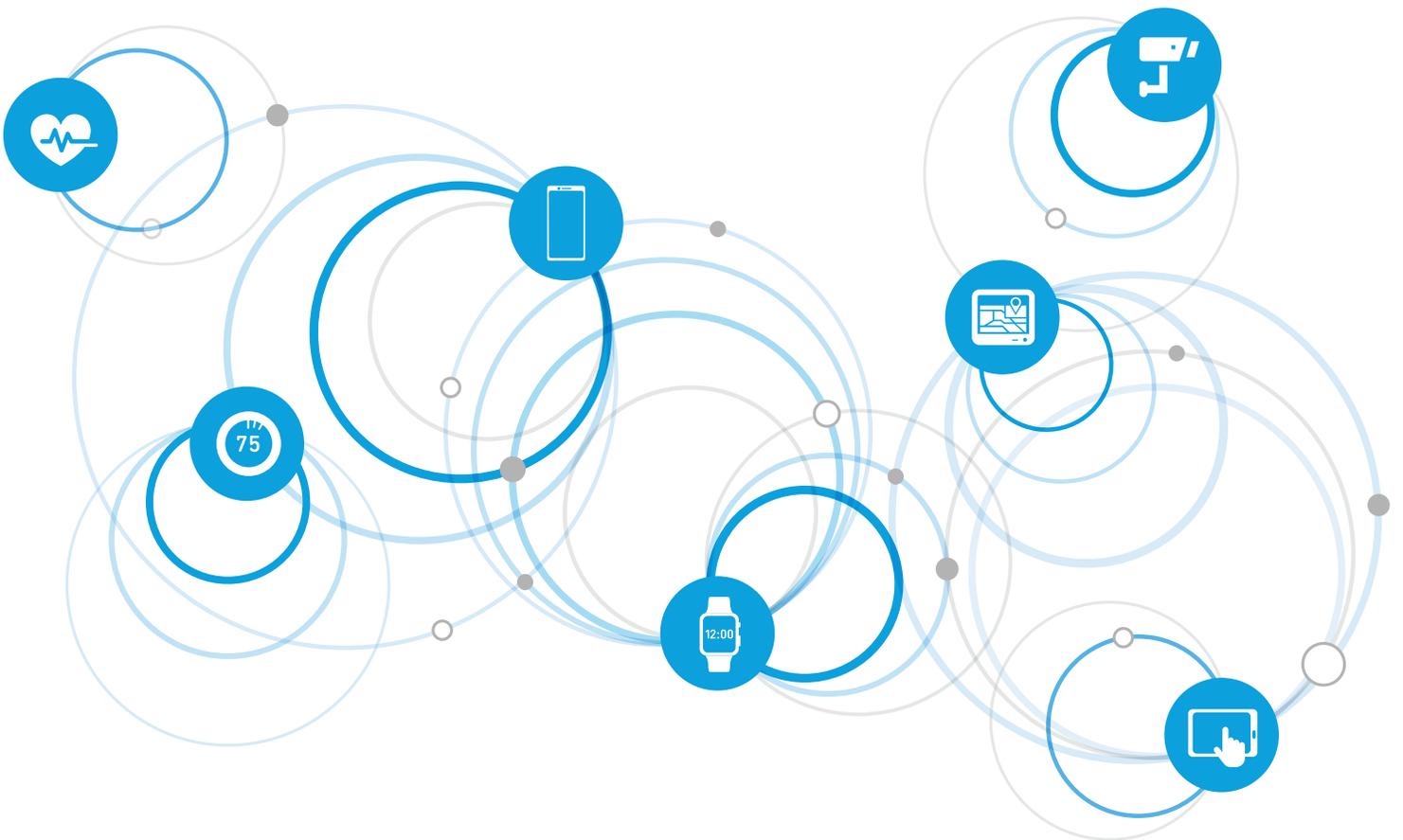


# Power Management ACTIVECiPS™ Modular Power PMICs

Industry-leading, configurable, intelligent power management solutions



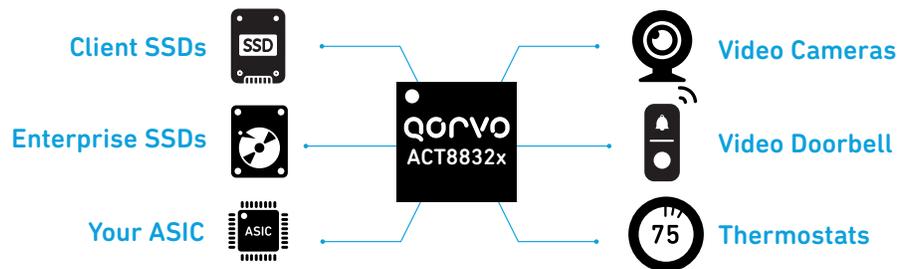
**qorvo**  
all around you

# Smaller, Smarter, More Reliable Power Management

Power efficiency is a critical element in the design of electronic devices for applications ranging from 5G base stations and phased arrays to data centers, cars and the Internet of Things. It is also an essential consideration in the design of personal household electronics and connected devices consumers rely on such as tablets and smartphones, cameras and video doorbells, and smartwatches.

Qorvo's highly integrated configurable innovative power supply (CiPS) solutions implement a built-in intelligence SoC which greatly simplifies the design process by eliminating the need for external components, delivering compelling simplicity, efficiency and flexibility. Designers can achieve significantly smaller footprints with lower bill of material (BOM) costs and improved system reliability – all while shortening time to market.

## Qorvo Example: One PMIC Configured for Many Applications and Platforms



## The ActivePMIC™ Family

The company's portfolio of analog and mixed-signal SoCs includes the ActivePMIC family of scalable power management integrated circuits designed for charging and powering embedded digital control systems for industrial, commercial and consumer applications.

ActivePMIC solutions integrate best-in-class power conversion with intelligent system management. Further, the unique architecture of these products enables battery charging as an integral function within the product family. Some of the applications powered by these ActivePMIC solutions include:

- Application processors, memory and peripherals in advanced portable devices such as smart watches, wearables, POS terminals, e-Books, portable media players and tablet PCs
- Other consumer/industrial electronics such as human-machine interfaces (HMI), control panels, smart grid infrastructures, network gateways, M2M systems, 2D barcode scanners, barcode printers and machine vision equipment
- Home and commercial building automation
- Fitness and health devices



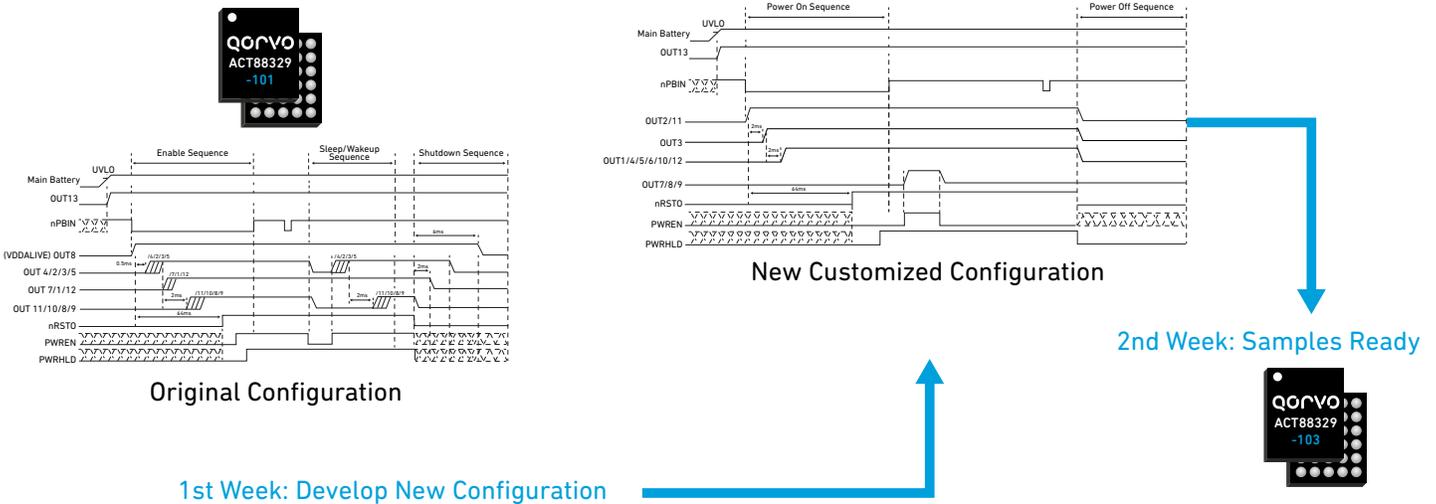
## Industry's Highest Degree of User-Configurable Customization

Each product is configurable through I2C communications or non-volatile configuration matrix. The following represents an example of the individual parameters that can be customized to meet the needs of your application:

- Buck/LDO output voltage - 0.6V to 4V in 12.5mV steps
- Buck 1: DC-DC converter mode or bypass mode
- Multiple sleep modes
- Power on/off sequencing
- Turn on/off delay: 0mS to 2mS in 0.5mS steps
- GPIO configuration: soft/hard reset, interrupt, configurable sequencing/control for external supply rails, LED sinks
- Operation frequency: 1.125 MHz or 2.25 MHz
- Optimized control loop for different output cap values
- PFM/PWM mode
- Clock phase - 0 or 180 degrees
- Low EMI or high efficiency switching rate
- Internal output pull-down resistor
- Flexible ON/Off control signaling – choose between various power state signals available to make power up sequencing highly configurable
- Enable or disable power good signaling to control ON/OFF operation for other tiles
- Dynamic voltage scaling slew rate
- Current limits, VIN OV

# ActiveCiPS: Quick Customization

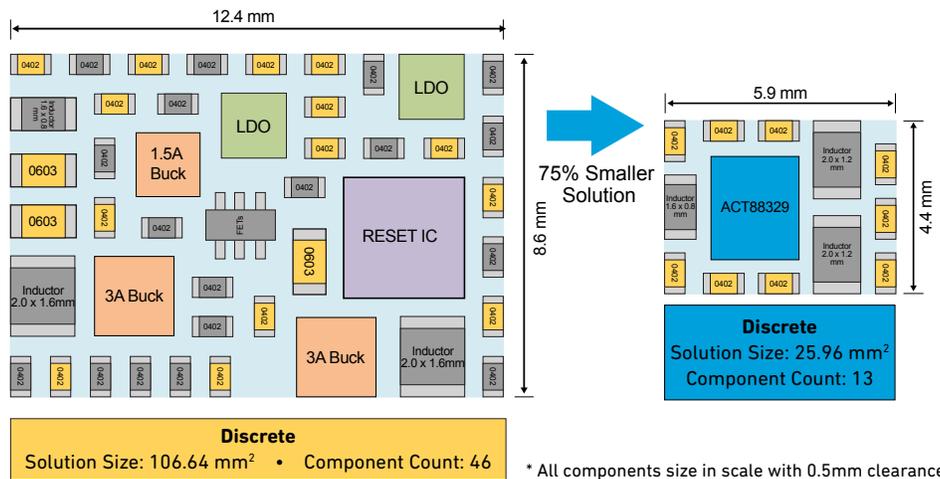
The ability to easily, rapidly and cost-effectively customize your design means you can get to market faster than ever before with a compact solution that is highly integrated and configured exactly how your customers want. Additionally, the ActiveCiPS program board allows for changes to the default configuration in the lab to further reduce development time.



## ACT88329

ActiveCiPS is not just reduction of external components but also:

- Configurable via I2C current limits
- Adjust GPIO functionality
- Adjust current limits and other protection features during system development
- Multi-time programmable
- Customer developed startup and shutdown configurations



The diagram above illustrates a typical size reduction achieved through the use of Qorvo's innovative, configurable power supply solutions.

## Modular Power ActivePMICs

Part Number	Description	Application Processors	Battery Charger	Buck Converters	Bucks Configurable as Load Switch	Boost Converters	Buck-Boost Converters	LDO Regulators	LDOs Configurable as Load Switch	Interface	Package Type	Package (mm)
ACT81460	Low power PMIC with integrated linear charger	General purpose/wearable & IoT processors	ActivePath™	2	0	1	1	3	3	I2C	CSP, 49-pin	3.3x3.3
ACT85610	Hybrid PLP+PMIC for enterprise storage and computing	General purpose	No	5	0	1	0	1	0	I2C	QFN, 52-pin	6.0x6.0
ACT86600	Hybrid PMIC for enterprise storage and computing	General purpose	No	5	1	0	1	0	0	I2C	QFN, 48-pin	6.0x6.0
ACT88320	Advanced PMIC with 20 V OVP, Inrush control, bypass switch & eFuse	Silicon Motion, Ambarella, Atmel, Micro Semi, Socionext, Omnivision	No	3	1	0	0	2	0	I2C	QFN, 32-pin	4.0x4.0
ACT88325/6	Advanced PMIC with bypass switch & pushbutton function	Silicon Motion, Ambarella, Atmel, Micro Semi, Socionext, Omnivision	No	3	1	0	0	2	1	I2C	WLCSP, 36-pin	2.7x3.3
ACT88329/1	Advanced PMIC with 3 Bucks, 2 LDOs, and Load Bypass Switches	General Purpose	No	3	1	0	0	2	1	I2C	WLCSP, 30-pin	2.18x2.581
ACT88430	Advanced PMIC for microcontrollers & SSDs	HiSilicon Silicon Motion, Ambarella, Atmel, Micro Semi, Socionext, Omnivision	No	4	1	0	0	3	1	I2C	QFN, 40-pin	5.0x5.0
ACT8846	Advanced PMIC for multi-core application processors	Rockchip RK3066, RK3188	No	4	0	0	0	9	0	I2C	TQFN, 48-pin	6.0x6.0
ACT8847	Advanced PMIC for multi-core application processors	Freescall i.MX51, i.MX53, i.MX6, Samsung S5PC210, S5PV310	No	4	0	0	0	9	0	I2C	TQFN, 48-pin	6.0x6.0
ACT8849	Advanced PMIC for multi-core application processors	Freescall i.MX51, i.MX53, Samsung S5PC210, S5PV310	No	4	0	0	0	9	0	I2C	TQFN, 48-pin	6.0x6.0
ACT8865	Advanced PMIC for Atmel SAMA5Dx series & SAM9 series processors	Atmel SAMA5D (31/33/34/35/36), SAM9G (15/25/35/45/46), SAM9X (25/35), SAM9M (10,11), SAM9N (11/12)	No	4	0	0	0	3	0	I2C	TQFN, 32-pin	4.0x4.0
ACT8870	Advanced PMIC with bypass switch for microcontrollers & SSDs	Atmel SAMA5D2; Silicon Motion, Ambarella, Micro Semi, Socionext, Omnivision	No	4	1	0	0	3	0	I2C	CSP, 48-pin	5.0x5.0; 3.2x4.2x0.5
ACT88760	Advanced PMIC	General Purpose	No	7	0	0	0	6	2	I2C	WLCSP, 81-pin	3.85x3.85
ACT8945A	Advanced PMIC for Atmel SAMA5Dx series & SAM9 series processors	Atmel SAMA5D (31/33/34/35/36), SAM9G (15/25/35/45/46), SAM9X (25/35), SAM9M (10,11), SAM9N (11/12)	ActivePath	4	0	0	0	3	0	I2C	TQFN, 40-pin	5.0x5.0

## Designed with a Purpose

Qorvo's turnkey solutions deliver energy-saving power conversion architectures that minimize energy usage and compress system development time to market by more than 50 percent. Our scalable core platforms are used for charging, powering and embedded digital control systems for end applications in the industrial, commercial and consumer equipment markets.

For more information about our modular power PMICs, visit:  
[www.qorvo.com/products/power-management/modular-power-pmics](http://www.qorvo.com/products/power-management/modular-power-pmics)