

# SAMSUNG

## Product brief

Efficiently powering mobile innovation

# S2FPC01 Power IC

## Highlights

Efficient architecture to reduce power consumption

Fast transients for output voltage accuracy

Current capability with the best performance for fast data rate and high density DIMMs

## DDR5 PMIC for client PC

The S2FPC01 is built on a 90nm process node optimized for small battery-powered devices, and comes in a smaller package. It has a more agile performance, and is tailored for use in desktop or laptop PCs.

## Low power consumption

The S2FPC01 offers up to 91% power-efficiency. The asynchronous-based dual phase buck control scheme allows stepping down DC voltages from high to low with a fast transient response to changes in output load current. It efficiently regulates output voltage at near-constant levels. The control scheme also features both pulse width modulation and pulse frequency modulation methods which prevent delays and malfunctions during mode switching.

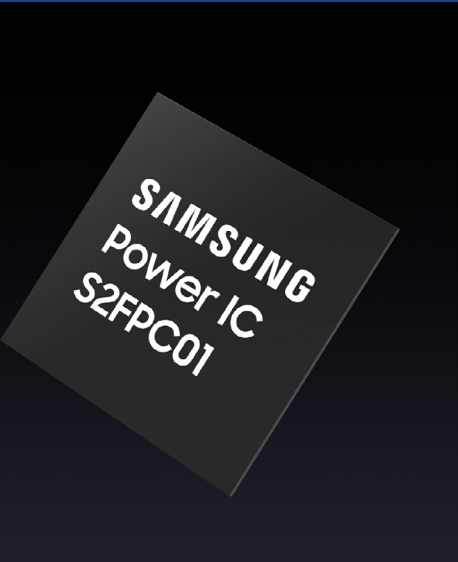
## Optimized current capability

It has 3 bucks (SWA/SWB/SWC) and an LDO. The current capability of SWA and SWB is 4A and current capability of SWC is 1A. Dual phase mode (SWA+SWB) supports 8A. It is optimized for fast data rate and high density DIMMs for cost effectiveness.

## JEDEC-compliant PMIC

The S2FPC01 fully supports JEDEC standard (version 1.0a).

(PMIC5100 Power Management IC Specification Rev1.0, JESD301-2)



SAMSUNG  
Power IC  
S2FPC01

# Specifications

	S2FPC01 Power IC
VIN_BULK	4.25V ~ 15V
Power Management	Input UVLO/OVLO, Thermal Shut Down function Read/Write I2C/I3C for Register Control Interface up to 1MHz for I2C and 12.5MHz for I3C Error Log Count & Storage Built-in Nonvolatile Memory registers Dynamic Voltage Scaling controlled by I2C/I3C Programmable Soft Start & Soft Stop Time Current Limit, Over/Under voltage protection Power Meter
Current Capability	4A/4A/1A per each phase
SWA	Programmable output with 5mV step (0.6V ~ 1.435V) Switching Frequency : 0.75MHz
SWB	Programmable output with 5mV step (0.6V ~ 1.435V) Switching Frequency : 0.75MHz
SWC	Programmable output with 5mV step (1.5V ~ 2.135V) Switching Frequency : 0.75MHz
LDO1	Programmable output voltage 1.7/1.8/1.9/2.0V Output current capacity of 25mA
LDO2	Programmable output voltage 0.9/1.0/1.1/1.2V Output current capacity of 20mA

\* All product specifications reflect internal test results and are subject to variations by user's system configuration. Actual performance may vary depending on use conditions and environment.

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