



STPMIC25

High efficiency power management for the STM32MP2 series



Fully integrated and cost-effective solution for advanced MPU applications

The STPMIC25 is part of the STPMIC family, a fully integrated power management IC designed to meet the evolving demands of modern MPUs. Tailored for the STM32MP2 series, the STPMIC25 is designed to supply applications with low power consumption and high system efficiency. The advanced features of the MPU controllable via I²C and IO interfaces allow power supply, to the processor as well as to the system peripherals including DDR and Flash memory. Its seven buck SMPS are optimized for the best transient response and output voltage accuracy, supporting low power mode (LPM) and high power mode (HPM) selection of the MPU. The production-ready STPMIC25 solution streamlines design and reduces costs.

KEY FEATURES

- Wide VIN voltage range: 2.8 V to 5.5 V
- 7 buck high efficiency SMPS converters
- 6 adjustable general-purpose LDOs
- 1 LDO for DDR3L/DDR4 termination
- 1 LDO for USB PHY power supply
- 1 reference voltage VREFDDR LDO for DDR memory
- Extended temperature up to +125°C
- User programmable non-volatile memory (NVM)
- Programmable output voltages sequences
- I²C and digital IO control interfaces
- WQFN 56L (6.5 x 6.5 x 0.9 mm) package

KEY BENEFITS

- Industrial/factory/home automation
- Networking
- Healthcare monitoring

STPMIC25 main features overview

SMPS buck converters:

- 2 MHz operation with adaptive COT
- Low power (LP) and high power (HP) modes
- Dynamic voltage scaling
- Programmable output discharge modes
- Selectable OCP level protection with advanced safety management

Versatile LDOs:

- 5 adjustable with soft-start and programmable discharge modes
- 2 fixed LDOs for specific applications (3.3 V USB PHY, VDDA)

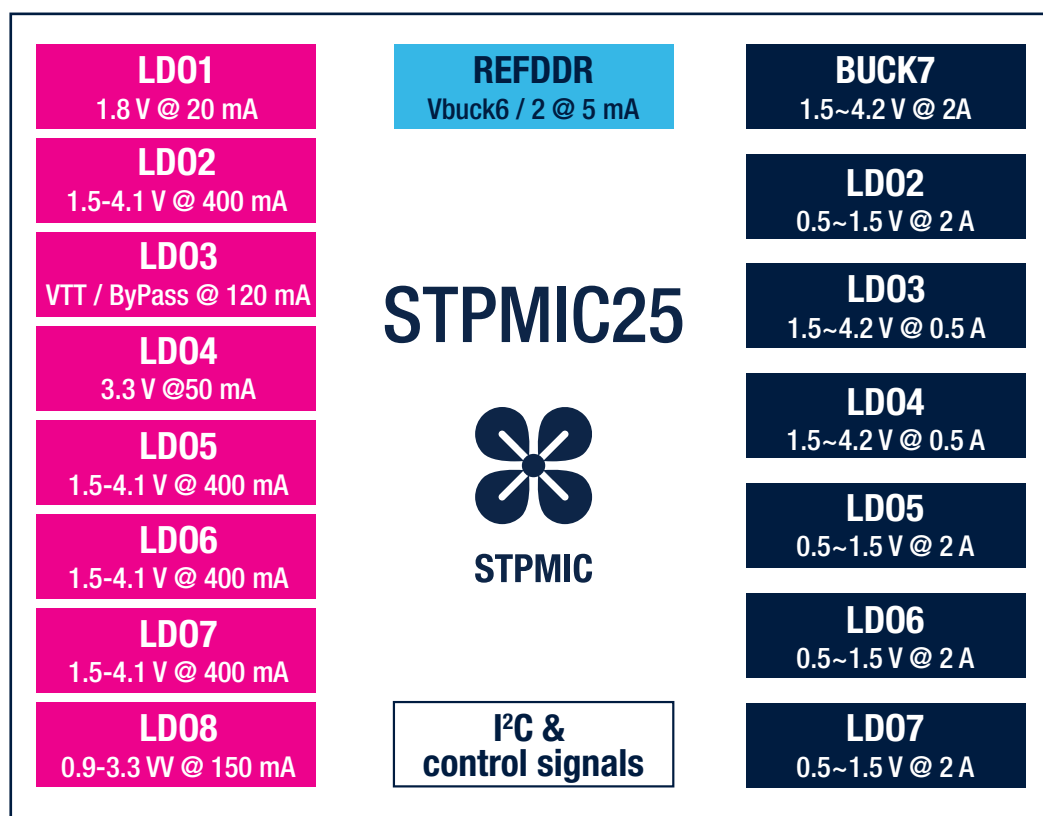
Customizable NVM:

- 3 part numbers with voltage rank-up options
- Fully customizable output voltage rails
- Safety management configurations

Dedicate DDR memory powering:

- Sink/source LDO for DDR memory with bypass modes IpDDR
- Voltage reference for DDR

STPMIC25 block diagram



STEVAL-PMIC25V1 evaluation board

Get hands-on experience with the capabilities of the STPMIC25. Our comprehensive evaluation board enables you to test and optimize your power supply designs with ease.

Explore the full potential of the board with our GUI and software tools.



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