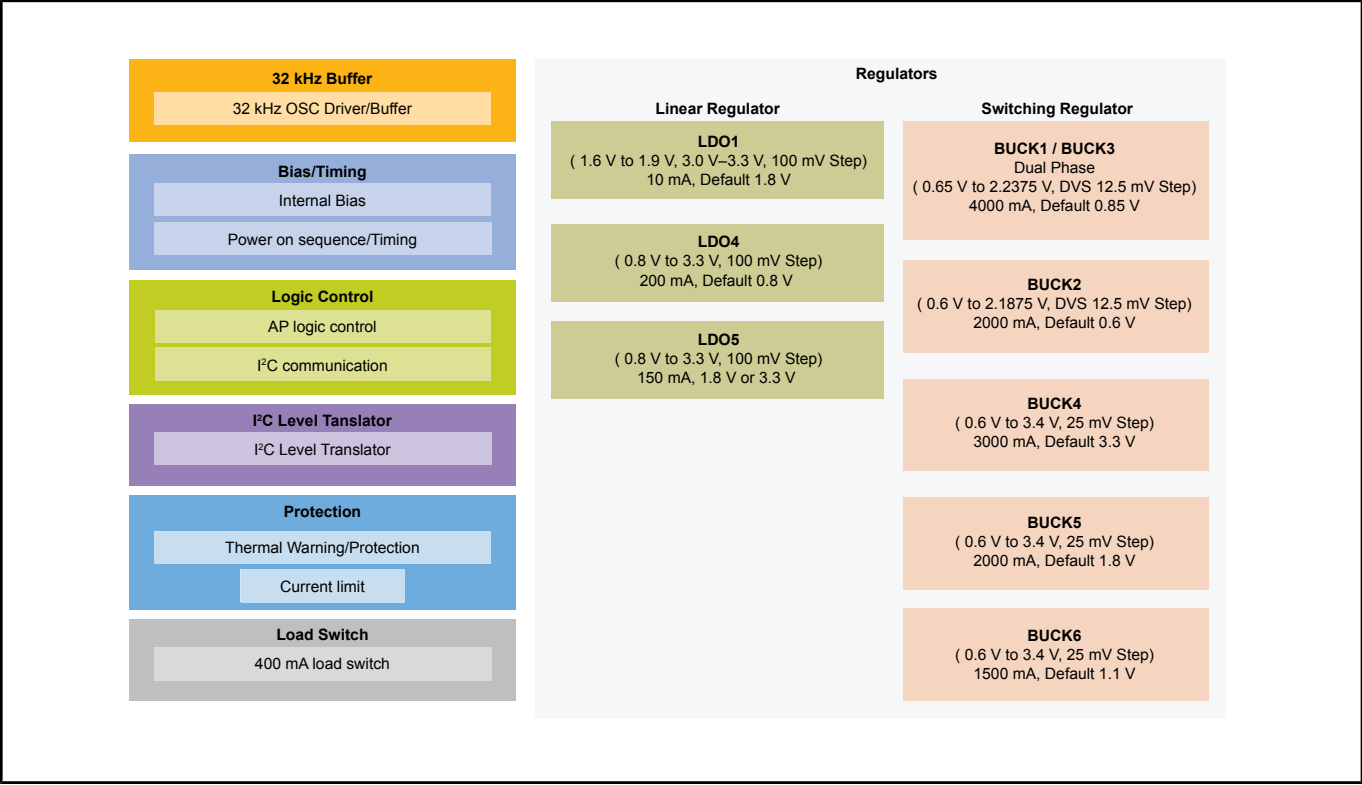# PCA9451A Evaluation Board

PCA9451A-EVK

Last Updated: Sep 5, 2024

The PCA9451A is a general purpose single chip power management IC (PMIC) designed to support different microcontrollers and microprocessors for different applications for the consumer and industrial markets. The PCA9451A provides an out-of-the-box power supply solution to support i.MX 93 family processors.

The device provides six high efficiency step-down regulators, three LDOs, one 400 mA load switch, 2-channel level translator and 32.768 kHz crystal oscillator driver.

This PCA9451A-EVK board provides full access to all the features in the PCA9451A device. The evaluation kit comes with a FTDI cable used as a communication interface between I²C and USB to have control of the PMIC's configuration registers using the PCA9451A GUI software.

PCA9451A Power Management IC for i.MX 93x Block Diagram

Regulators

32 kHz Buffer

32 kHz OSC Driver/Buffer

Bias/Timing

Internal Bias

Power on sequence/Timing

Logic Control

AP logic control

I²C communication

I²C Level Tanslator

I²C Level Translator

Protection

Thermal Warning/Protection

Current limit

Load Switch

400 mA load switch

Linear Regulator

LDO1
(1.6 V to 1.9 V, 3.0 V–3.3 V, 100 mV Step)
10 mA, Default 1.8 V

LDO4
(0.8 V to 3.3 V, 100 mV Step)
200 mA, Default 0.8 V

LDO5
(0.8 V to 3.3 V, 100 mV Step)
150 mA, 1.8 V or 3.3 V

Switching Regulator

BUCK1 / BUCK3
Dual Phase
(0.65 V to 2.2375 V, DVS 12.5 mV Step)
4000 mA, Default 0.85 V

BUCK2
(0.6 V to 2.1875 V, DVS 12.5 mV Step)
2000 mA, Default 0.6 V

BUCK4
(0.6 V to 3.4 V, 25 mV Step)
3000 mA, Default 3.3 V

BUCK5
(0.6 V to 3.4 V, 25 mV Step)
2000 mA, Default 1.8 V

BUCK6
(0.6 V to 3.4 V, 25 mV Step)
1500 mA, Default 1.1 V

View additional information for PCA9451A Evaluation Board.

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