

EMU5103 is a RISC-V-based microcontroller that meets AEC-Q100 Grade 1 automotive qualifications. It's a BLDC motor system-in-a-chip that controls 3 NMOS half-bridges for driving BLDC motors, DC motors, or other loads.

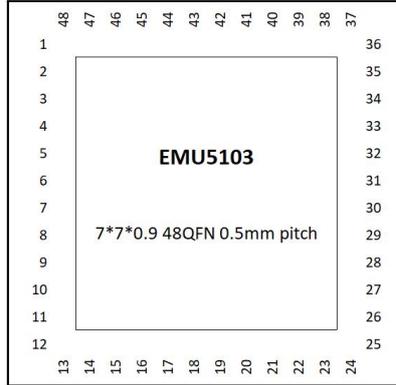
EMU5103 incorporates the high-performance RISC core operating at a 96 MHz frequency, up to 128 KB on-chip Flash memory, and 32 KB SRAM. It offers one 12-bit ADC, two operational amplifiers, one comparator, two fleximers dedicated to motor control, three basic timers, one low power timer, one watchdog timer, one temperature sensor. It also offers one CAN-FD, two UARTs with LIN support, two I²Cs, three SPIs, one AES, one CRC.

EMU5103 operates from a 5.5 to 28 V power supply. It also offers a MOSFET driver, including a charge pump, and one LIN 2.2 transceiver. It is available in both the -40 to +125 °C temperature range.

This all-in-one device enables small-footprint applications to control BLDC and DC motors, such as water pumps, fuel pumps, compressors, engine cooling fans, sunroofs, reversible wipers, etc.

Features

- high performance ESWIN RISC-V core, up to 96MHz
- one 12bit 1 MSPS ADC converters up to 13 channels
- two operational amplifiers
- one comparator
- one temperature sensor
- one LIN 2.2 transceiver
- 6x MOSFET driver including charge pump
- two fleximers dedicated to motor control, three basic timers, one low power timer
- one CAN-FD
- two UARTs with LIN support
- two I²Cs
- three SPIs
- AES encryption hardware accelerator
- CRC calculation unit
- AEC-Q100 grade1 qualified
- Operating temperature: -40~125°C
- QFN48-7mm*7mm



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