



ATSAME70 Motor Control Plug In Module

Part Number: MA320203



SAME70 Motor Control Plug-In Module
(Part # MA320203)



Summary

This plug-in module comes with a ATSAME70 32-Bit ARM Cortex M7 MCU device. It can be used with the Microchip MCHV-3 [DM330023-3] and MCLV-2 [DM330021-2].

[MCLV-2 Low Voltage BLDC Kit - DM330021-2](#)

MCHV-3 [High Voltage BLDC Kit - DM330023-3](#)

Field Oriented Control code is available at the attached download package for PMSM type motors to enable customers to get started immediately.

PLEASE NOTE: For use with the MCHV-2 and MCHV-3 (High Voltage) external programming adapter AC320202 is required to safely connect to a PC.

AC320202 Isolated Debugger Interface

All of the software covered in this application note is available as a MPLAB Harmony application. This application can be found with the <installdir>\apps\motor_control folder of your MPLAB Harmony installation.

The MPLAB Harmony Integrated Software framework can be downloaded from:
www.microchip.com/mplab/mplab-harmony

Package Contents

ATSAME70 Plug In Module

Product Features

MCU Features:

SAM E70 series of Flash microcontrollers (MCUs) operates at a maximum speed of 300MHz and features up to 2048kB of Flash, 16KB each instruction plus data cache and up to 384KB of SRAM. A QSPI, static memory and SDRAM interface offer further memory extension options. The SAM E70 series offers a rich set of advanced connectivity peripherals, including 10/100Mbps Ethernet MAC supporting IEEE 1588, dual CAN-FD 1.0, High Speed USB Host and Device with on-chip high-speed phy, Camera Interface, one SD/MMC interface, one SSC supporting TDM and I2S, 8 UARTs, 5 SPI and 3 I2C™.

- ARM Cortex-M7 core running at 300MHz
- Double Precision Floating point unit (FPU) for high-precision computing and accelerated data processing
- High-performance internal memory architecture with user configurable Tightly Coupled Memories, System memory, and 16kB I-cache and D-cache
- Dual Bosch CAN-FD 1.0 Controller
- 10/100 Ethernet MAC with IEEE1588
- High Speed USB Host and Device with on-chip high-speed Phy
- CMOS image sensor interface
- Integrated Security features including AES hardware encryption engines, TRNG and SHA-based memory integrity checker
- Advanced analog front end based on dual 2Msps 12-bit ADCs including 16-bit average, up to 24 channels, offset error correction and gain control
- Dual 2Msps, 12-bit DAC and analog comparator
- 64 to 144-pin package options

- Extended industrial temperature range: -40°C to 105°C