Freescale ▸ Embedded Software and Tools ▸ Automotive Embedded Software and Tools ▸ Automotive Motor Control Development Solutions

MTRCKTSPS5643L: 3-phase PMSM Development Kit with Qorivva MPC5643L MCU ☆

| Overview | Documentation | Downloads | Buy / Specifications | Training & Support |

Application Notes   **Buy**

The MTRCKTSPS5643L motor control development kit is ideal for applications requiring one PMSM motor, like active suspension or electric powertrain. The kit is designed to enable rapid prototyping and evaluation of the motor control application without having to wait for the final hardware design. The kit includes a 32-bit Qorivva MPC5643L based controller board and the 3-phase low-voltage power stage board.
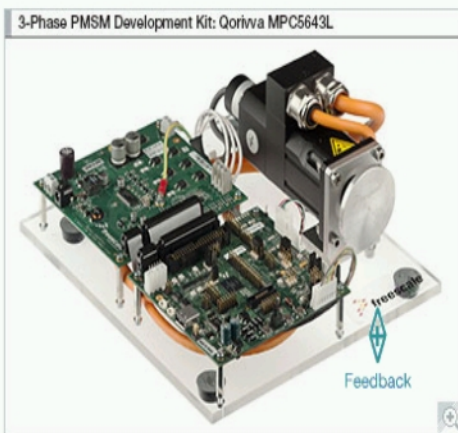
An integral part of the automotive motor control development kit is the application software which provides a complete reference implementation of the PMSM motor control application and also takes advantage of the Automotive Math and Motor Control Library Set.

Features

- 32-bit Qorivva MPC5643L controller board
- 3-phase low-voltage power stage based on SMARTMOS MC33397A pre-driver
- Supports low-voltage PMSM motors with resolver and encoder sensors
- DC-bus overvoltage, overcurrent and undervoltage fault detection
- FreeMASTER visualization/configuration support
- ANSI-C based motor control reference software with easy portability
- Extensive documentation for SW and HW

Related Software and Tools

AUTOMATH_MCL: Automotive Math and Motor Control Library Set
MC_TOOLBOX: Motor Control Development Toolbox
FREEMASTER: FreeMASTER Run-Time Debugging Tool

3-Phase PMSM Development Kit: Qorivva MPC5643L

Feedback

Supported Devices

MPC564xL: Qorivva 32-bit MCU for Chassis and Safety Applications

MC33905: System Basis Chip Gen2 with High-speed CAN and LIN

MC33937: Three Phase Field Effect Transistor Pre-driver

Featured Documentation

MTRCKTSPS5643LFS: MTRCKTSPS5643L Fact Sheet
MTRCKTSPS5643LQSG: MTRCKTSPS5643L Quick Start Guide

↗ Jump Start Your Design

Get Started With MTRCKTSPS5643L 3-phase PMSM Development
This collection of resources will help you to get started ...

Kit Contains

- 3-phase low-voltage power stage based on SMARTMOS MC33397A pre-driver
- Freescale 32-bit Qorivva MPC5643L controller board (orderable separately as MTRCCBP5643L)
- AC/DC 24V Universal Power Supply Kit
- 3-phase PMSM low-voltage motor
- USB 2.0 A-A type cable, ribbon cables for power stage and controller board connection
- Fact sheet and quick start guide

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by Freescale's automotive experts

Featured Video

Automotive Motor Control Development Kits - Introduction (01:44 min)

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MPC564xL: Qorivva 32-bit MCU f...	AN4518, Dual 3-Phase PMSM Deve...	MTRCKTDPS5643L: Dual 3-phase P...	Brushless DC (BLDC) Motor
MPC564xA: Qorivva 32-bit MCU f...	MPC5643L Dual Motor Controller...	MTRCKTDBN5643L: Dual 3-phase S...	Hybrid Electric Vehicle (...
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