



Power Architecture® 32-bit Microcontroller Fact Sheet

Qorivva MPC5567 Microcontroller

Powertrain with high-speed communication and deterministic behavior

Overview

Targeting FlexRay™ applications for mid-range engine management and industrial use cases that require complex real-time control, the Qorivva MPC5567 is a 32-bit microcontroller with 2 MB of flash, 80 KB of static random access memory (SRAM), fast Ethernet controller and up to 132 MHz of performance.

Product Benefits

- Up to 132 MHz processing performance
 - Equates to five times the systems performance of its MPC500 predecessors
- Variable-length encoding to improve code density up to 30 percent over classic PowerPC® technology

- Pin and code compatible with other members of the Qorivva MPC5500 family of scaleable powertrain controllers
 - Allows for easy migration up to the industry's first 3 MB flash embedded controller for next-generation applications
 - Performs a critical function as the need for increased fuel efficiency and improved emissions continues to rise
- Facilitates reuse of legacy software architectures
- Enhanced timer processing (eTPU) offloads complex control, I/O and timing requirements

Applications

- Multi-point fuel injection control
- Electronically controlled transmissions
- Direct diesel injection
- Gasoline direct injection
- Avionics
- High-end motion control
- Military
- Heavy industries

Specification Overview

Device	Core Platform	Program Flash	SRAM	DMA	EEPROM	SCI	DSPI	CAN	FlexRay™	Ethernet (100Base-T)	External Bus	Nexus	PWM	ETPU	eMOS Module	I/O	ADC	Voltage	Temp. Range	Frequency Range
MPC5567	Power e200z6	2 MB	80 KB	32-ch.	Emulated in program flash	2	3	5	√	√	√	3	24-ch.	32-ch.	24-ch., 24-bit	238	1-ch. x 40-ch., 12-bit eQADC	3.3V and 5V	C, M	80–132 MHz

C = -40°C to +85°C; M = -40°C to +125°C

Features

- e200z6 Core
 - High-performance 132 MHz 32-bit Book E-compliant core built on Power Architecture® technology with variable length encoding
 - Memory management unit with 32-entry fully associative translation lookaside buffer
 - Signal processing extension: DSP, SIMD and floating point capabilities
- Memory
 - 2 MB of embedded flash memory with error correction coding (ECC) and read while write capability
 - 80 KB on-chip static RAM with ECC
 - 8 KB of cache (with line-locking) that can be configured as additional RAM
- System
 - eTPU with 32 I/O channels and 14.5K of designated SRAM
 - 32-channel enhanced direct memory access controller
 - Interrupt controller capable of handling 210 selectable priority interrupt sources
 - Frequency modulated phase-locked loop to assist in electromagnetic interference management
- MPC500 compatible external bus interface
- Nexus IEEE-ISTO 5001™ Class 3+ multicore debug capabilities > 5/3.3V IO, 5V ADC, 3.3V/1.8V bus, 1.5V core
- 416-pin PBGA and 324-pin PBGA package options
- Temperature Range: -40°C to +125°C
- I/O
 - 40-channel dual enhanced queued analog-to-digital converters—each up to 12-bit resolution and up to 1.25 us conversions, six queues with triggering and DMA support
 - Three deserial serial peripheral interface modules—16 bits wide with up to six chip selects each
 - Five controller area network modules with 64 buffers each
 - Two enhanced serial communication interface modules
 - 24-channel enhanced multiple I/O system with unified channels
 - Dual-channel FlexRay interface
 - Fast Ethernet controller

32-bit Automotive Tools for Qorivva MPC5567

Part Number	Description
CWS-MPC-5500B-CX: CodeWarrior MPC55xx (Build Only Edition)	This is a “compiler and build tools” version only. CodeWarrior tools range from individual products and services to migrate to Freescale’s Qorivva MPC5500 family.
CWS-OSK-5500-DV: OSEK Development Set for Freescale MPC5500 Family	This small, fast, reliable, scalable real-time operating system provides a valuable set of services that can be leveraged by your embedded application.
RAppID: Rapid Application Initialization and Documentation	This family of graphical development tools for the Qorivva MPC5xxx family of controllers is built on Power Architecture technology that enables you to easily configure the controller plus generate complete documentation.
MPC55xxEVB: MPC55xx Evaluation Board	Kits include everything necessary to begin development with the Qorivva MPC55xx family of microcontrollers.
MPC55xxEVBGHS: MPC55xx Green Hills Software Evaluation Kit	The GMIRT-EVAL-MPC55xx evaluation kit is a complete development system for quickly developing an embedded design with the Qorivva MPC55xx product family.
MPC55xxEVBISYS: MPC55xx iSYSTEM Evaluation Kit	iSYSTEM, partnering with several other software vendors, has created a comprehensive suite of hardware and software development tools including the iSYSTEM IONE USB-JTAG MODULE.

Learn More: For more information about our Power Architecture-based products and part numbers, please visit freescale.com/Qorivva .



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