

MPC5777M Microcontroller

Ultra-Reliable MCUs Built on Power Architecture® Technology

Product One-Sheet

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- Tools

Multi-core Performance – Unprecedented performance and integration for powertrain control within a power envelope of previous-generation MCUs

Distributed Processing – On-chip I/O processor offloads primary cores and allows higher parallel throughput. GTM timers and sigma delta ADC converters allow customers to do advanced filtering using on-chip knock hardware

Quality, Security and Redundancy – AEC-Q100 quality offers on-chip security encryption protection using HSM for SHE and TDM for tamper proofing and supports ASIL-D and SIL-1 functional safety (ISO26262/ IEC61508)

Features

- ▶ AEC-Q100 Grade1, Ta 125°C
- ▶ Ethernet, CAN-FD, Flexray
- ▶ Precision GTM Timers and ADC
- ▶ Ultra-Reliable MCU

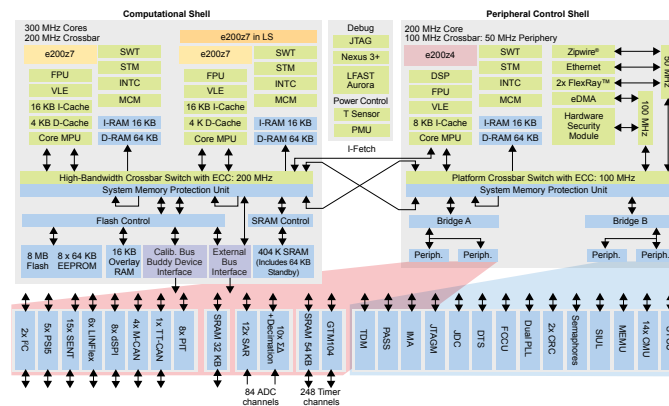
Orderable Samples

Part Number	Temp Range	Package
SPC5777MK0MVU8	-40°C to 125°C	416 TEPBGA
SPC5777MK0MVA8	40°C to 125°C	512 TEPBGA
PPC5777M2K0MVU8B	-40°C to 125°C	416 Emulation Device (ED)
PPC5777M2K0MVA8B	-40°C to 125°C	512 Emulation Device (ED)

MPC5777M Specifications

Flash	Up to 8 MB	Timer/PWM	248-ch Generic Timer Module
RAM	Up to 596 KB	Other	128-ch DMA, ECC, 15ch SENT, Zipwire®, SB, 5ch PSI-5
Cores	300 MHz/200 MHz	Analog	84-ch ADCs and 10-ch SD-ADCs
Speed	300 MHz/core	Ethernet/ FlexRay™	Ethernet (FEC), Dual channel FlexRay
Package	416 to 512 pins	SCI/dSPI/I ² C	Up to 6 / 8 / 2
Op Range	2.9 V–5.5 V	CAN	4 x MCAN-FD and 1 x TTCAN
Temp	125°C (ambient)	Security	HSM, TDM, WDOG, CRC

MPC5777M Block Diagram



Success Stories

- ▶ Success Stories
- ▶ Engine Management
- ▶ Hybrid and Electric Motors
- ▶ Transmissions

Target Applications

- ▶ Engine Control Units (ECU)
- ▶ Electric DC motor control
- ▶ Ethernet Connectivity
- ▶ Aerospace Engines

Enablement Tools

- ▶ Evaluation Boards:
 - MPC5777M-416DS 416 pin Adapter
 - MPC5777M-512DS 512 pin Adapter
 - MPC57XXXMB Motherboard
- ▶ S32 Design Studio (S32DS)
- ▶ NVM/Flash and LIN Drivers
- ▶ AutoSAR MCAL drivers (SDK)
- ▶ GTM selector, FreeMASTER
- ▶ GreenHills, Wind River (Diab)
- ▶ HighTec, Lauterbach
- ▶ ElectroBit (AutoSAR OS/MCAL)
- ▶ P&E Micro, ETAS and PLS

www.nxp.com/MPC5777M

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